Jet Boat Owner's Manual

YAMAHA

TO THE OWNER

Thank you for choosing a Yamaha Jet Boat. This Owner's Manual contains information you will need for proper operation, maintenance, and care. A thorough understanding of these simple instructions will help you to obtain maximum enjoyment from your new Yamaha. If you have any questions about the operation or maintenance of your Jet Boat, please consult a Yamaha dealer.

YAMAHA MOTOR CORPORATION, U.S.A.

Because Yamaha has a policy of continuing product improvement, this product may not be exactly as described in this Owner's Manual. Specifications are subject to change without notice.

This manual should be considered a permanent part of this Jet Boat and should remain with it even if the boat is subsequently sold.

IMPORTANT MANUAL INFORMATION:
In this manual, information of particular importance is distinguished in the following ways:

The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

CAUTION:

Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the Jet Boat.

⚠WARNING

A CAUTION indicates special precautions that must be taken to avoid damage to the Jet Boat.

NOTE:
A NOTE provides key information to make procedures easier or clearer.

EXCITER JET BOAT (EXT1100W)
OWNER'S MANUAL

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EXCITER

JET BOAT

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YAMAHA

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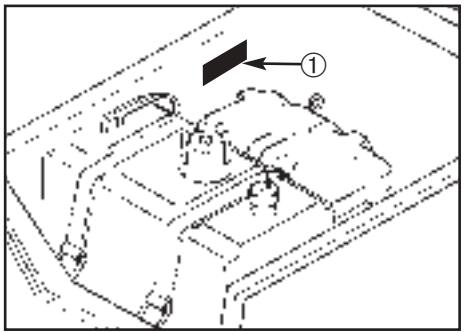
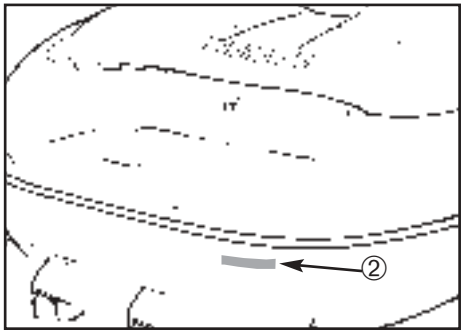
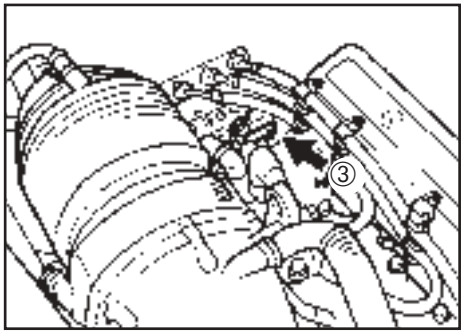
IDENTIFICATION NUMBER RECORDS

Record your Primary I.D., H.I.N., and engine numbers in the spaces provided to assist you in ordering spare parts from your Yamaha Jet Boat dealer. Also record and keep these I.D. numbers in a separate place in case your Jet Boat is stolen.







PRIMARY I.D. NUMBER

MODEL EXT1100W
GP1
YAMAHA MOTOR CORPORATION, U.S.A.
ASSEMBLED IN U.S.A. FROM AMERICAN AND JAPANESE COMPONENTS
ASSEMBLÉ AUX ÉTATS-UNIS DE PIÈCES AMÉRICAINES ET JAPONAISES

The Primary I.D. number is stamped on a label ① attached to the inside of the engine compartment.

HULL IDENTIFICATION NUMBER (H.I.N.)

The H.I.N. is stamped on a plate ② attached to the right rear corner of the hull.

ENGINE SERIAL NUMBER

PORT

			–								

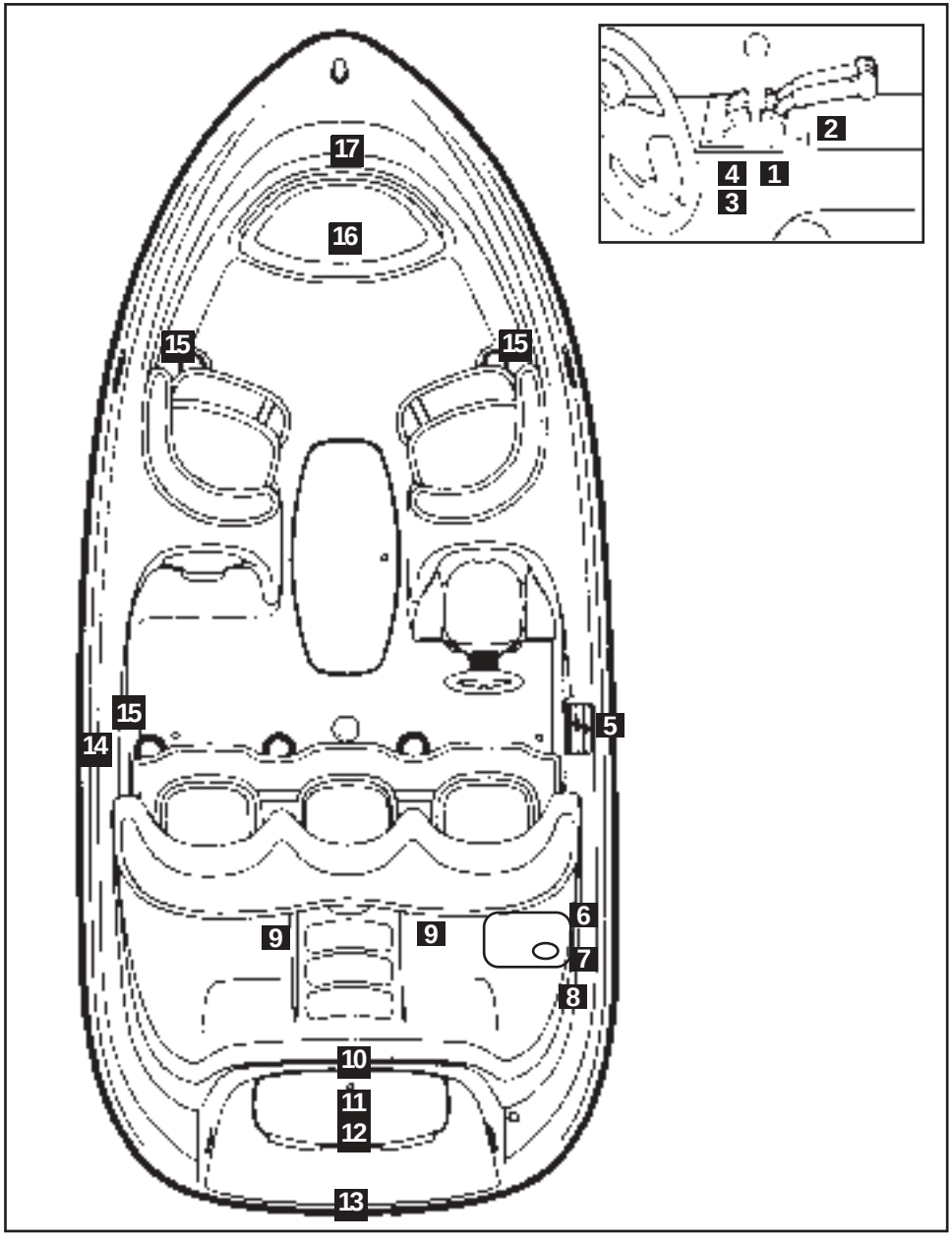
STARBOARD

			–								

The Engine Serial Numbers are stamped on a label ③ attached to the back side of the electrical box.

IMPORTANT LABELS

LOCATION



IMPORTANT LABELS

①

⚠ WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING.

- Read the Owner's Manual, the Operation Instruction card, and all labels before operating.
- This boat is recommended only for operators 16 and older with valid motor vehicle license. Adults must supervise use by minors. Check state laws for minimum age requirements.
- Wear a USCG-approved personal flotation device.
- You must know and follow all federal, state, and local boating laws.
- Never operate after drinking alcohol or taking drugs.
- Strong streams of water from the jet nozzles can be dangerous, and can result in injury when directed at body orifices (rectum and vagina). Engines must be off while boarding from rear, using the swim platform, or when swimming behind the boat.
- Do not operate in less than 3ft (90cm) of water.
- Keep a safe distance from swimmers, other watercraft, and obstructions.
- Never attempt jumps with this boat.
- Keep hands, feet, hair, and all other parts of your body and clothing away from jet intakes while engines are running.
- Pulling a skier can affect steering and handling. Do not attempt maneuvers that exceed the skill of operator or skier.

YAMAHA GP1-U416C-10

②

⚠ WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING.

- Attach the engine stop switch lanyard to your personal flotation device before operating. Failure to attach lanyard could result in a runaway boat if operator is ejected.
- Check throttle, steering and shift lever for proper operation before starting the engines.
- Shift into neutral before starting engines.
- Put throttle levers in idle position before shifting.
- You need engine power to turn. Pulling the throttle levers back to idle or shutting off engines can cause you to hit an obstacle you are attempting to avoid.

YAMAHA GP1-U416C-20

③

U.S. COAST GUARD

MAXIMUM CAPACITIES

5 PERSONS OR 930 LBS

930 LBS PERSONS, GEAR

THIS BOAT COMPLIES WITH U.S. COAST GUARD SAFETY STANDARDS IN EFFECT ON DATE OF CERTIFICATION

MANUFACTURER: YAMAHA MOTOR CORPORATION, U.S.A.

MODEL: EXT1100 CYPRESS, CA

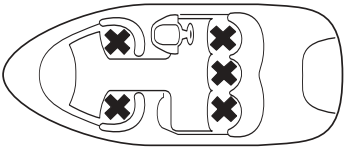
DESIGN COMPLIANCE WITH NMMA REQUIREMENTS BELOW IS VERIFIED. MFGR. RESPONSIBLE FOR PRODUCTION CONTROL

LOAD CAPACITY * COMPARTMENT VENTILATION
STEERING, FUEL AND ELECTRICAL SYSTEMS
INTERNATIONAL LIGHTS * BASIC FLOTATION
MANEUVERABILITY

CERTIFIED SAFE

NATIONAL MARINE MANUFACTURERS ASSN.

UNDERWAY SEATING POSITIONS



MAXIMUM 5 PERSONS

YAMAHA GP1-U416F-10

④

⚠ WARNING

Gasoline vapors can explode.

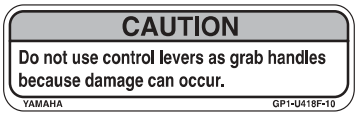
Operate blower for at least 4 minutes and check engine compartment bilge for gasoline vapors before starting engines.

Do not start engines if there is a fuel leak or loose electrical connection.

YAMAHA GP1-U416F-10

IMPORTANT LABELS

⑤



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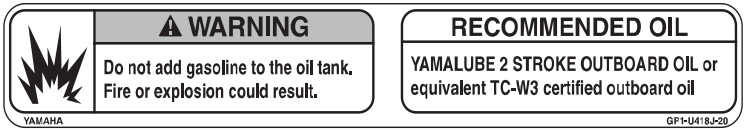
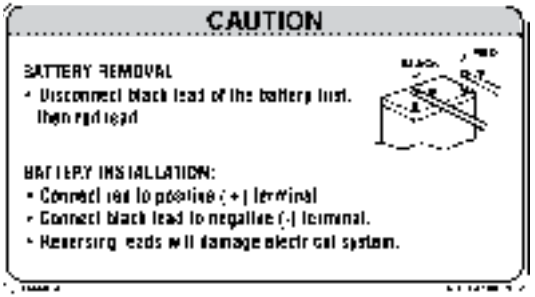

⚠ WARNING
Do not add gasoline to the oil tank. Fire or explosion could result.
RECOMMENDED OIL
YAMALUBE 2 STROKE OUTBOARD OIL or equivalent TC-W3 certified outboard oil
YAMAHA
GP1-U418J-20

⑦


CAUTION
BATTERY REMOVAL
• Disconnect black lead of the battery first, then red lead
BATTERY INSTALLATION:
• Connect red lead to positive (+) terminal
• Connect black lead to negative (-) terminal.
• Reversing leads will damage electrical system.

⑧

⑨

IMPORTANT LABELS

⑩

Strong streams of water from the jet nozzles can be dangerous, and can result in serious injury when directed at body orifices (rectum and vagina).

- Do not board from rear, use swim platform, or swim behind boat if engines are running.
- Stay away from the back of the boat when engines are running.
- Wear wetsuit when waterskiing to protect against strong streams of water from the boat's jet nozzles as well as from impact with the water surface if you fall.

Do not sit on swim platform when the engines are running. You could fall overboard.

YAMAHA GP1-U415G-10

⑪

⚠ WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING.

- Turn off and remove both ignition keys, remove lanyard, and wait for all movement to stop before removing access port caps.
- Never override interlocks to run engines with hatch open.

YAMAHA GP1-U418G-10

⑫

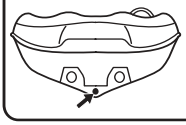
CAUTION

Be sure the access port caps are tightened securely.
A loose cap could be forced out of the port by water pressure, causing loss of performance and possible damage.

YAMAHA GP1-U418F-20

⑬

CAUTION



BEFORE LAUNCHING:

- Make sure drain plug at the back of the hull is tightened securely.
- See Owner's Manual for draining procedure.

AFTER OPERATION

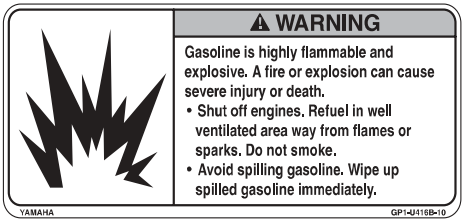
After removing from the water:

- Flush drive system and hull with fresh water. Open the drain plug at the back of the hull.
- Start the engine and rapidly move throttle levers from idle to half-throttle and back for 10~15 seconds to drain any leftover water in exhaust system.
- Refer to the Owner's Manual for complete maintenance and storage information.

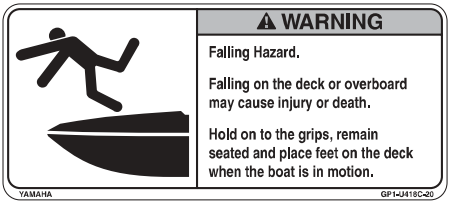
YAMAHA GP1-U419C-10

IMPORTANT LABELS

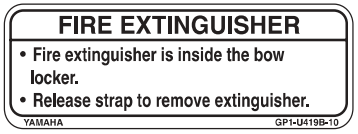
⑭


⚠ WARNING
Gasoline is highly flammable and explosive. A fire or explosion can cause severe injury or death.
• Shut off engines. Refuel in well ventilated area way from flames or sparks. Do not smoke.
• Avoid spilling gasoline. Wipe up spilled gasoline immediately.
YAMAHA
GP1-U416B-10

⑮


⚠ WARNING
Falling Hazard.
Falling on the deck or overboard may cause injury or death.
Hold on to the grips, remain seated and place feet on the deck when the boat is in motion.
YAMAHA
GP1-U416C-20

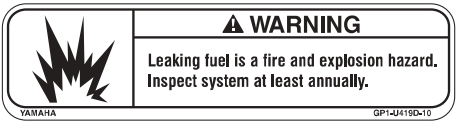
⑯



⑰

⚠ WARNING
Falling Hazard.
Falling on the deck or overboard may cause injury or death.
Do not sit here when the boat is moving.
YAMAHA
GP1-U418C-10

⑱



SAFETY INFORMATION

⚠WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING SAFETY INFORMATION.

- Before operating the Jet Boat, read this entire manual, the Operation Instruction card, and all warning labels on the Jet Boat. Also view the Basic Orientation video tape. These materials should give you an understanding of the boat and its operation.

  Never allow anyone to operate this Jet Boat until they too have read this Owner's Manual, the Operation Instruction card, and all warning labels.

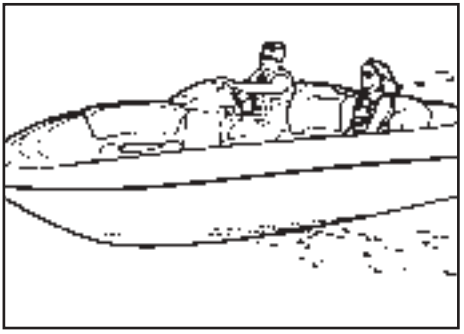
LIMITATIONS ON WHO MAY OPERATE THE JET BOAT

- This boat is recommended only for operators 16 and older with a valid driver license.

  Even though a motor vehicle operator's license is not required for Jet Boat operation in most states, it is one indicator that the operator has previously demonstrated a reasonable degree of maturity, responsibility, and good judgment.

  A responsible adult must supervise operation of this boat by minors.

  Many states have minimum age and education requirements. Always check state and local boating laws before you operate the Jet Boat.



- Your Jet Boat is designed to carry the operator, up to four passengers, and cargo, as long as the total weight does not exceed the maximum load capacity. Never have more than five people on board. Weight distribution affects performance. Keep weight in the boat low and evenly distributed. Remove any unnecessary cargo and store it on shore.

ATTENTION:

Maximum load capacity: 930 lb (421 kg)

Includes weight of operator, passengers, and any cargo.

REQUIRED EQUIPMENT

The U.S. Coast Guard (USCG) has regulations which describe minimum standards of safety. You must comply with these regulations, which apply to boats like your Jet Boat which are less than 26 feet long.

- Personal Flotation Devices (PFDs): Type I, II, or III as required for all people on board (see “Apparel” for more information), plus at least one Type IV (throwable type).
- Fire Extinguisher: At least one B-1 type hand-held portable fire extinguisher.
- Visual Distress Signals: Having USCG-approved visual distress signals on board is recommended under all circumstances, and required if you will be operating on coastal waters, the Great Lakes, territorial seas and waters connected to them. Contact your dealer or the Coast Guard for more information.
- Sound Signalling Device: Your Jet Boat is equipped with a horn which can be used to signal other boats. See “Rules of the Road” for more information.
- Navigation Lights: Your Jet Boat is equipped with navigation lights for use between sunset and sunrise, and during periods of reduced visibility, such as fog. Be sure these lights are working and are turned on when necessary (see page 2-12 and 3-9 for more information).

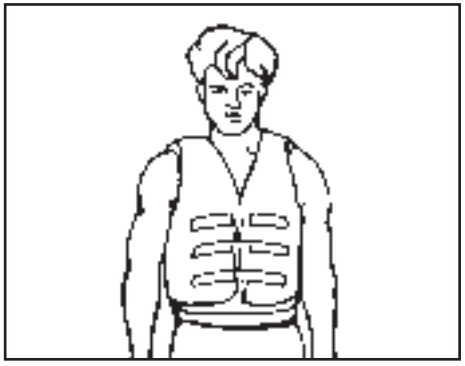
ADDITIONAL EQUIPMENT RECOMMENDATIONS

The following equipment can help make your boating experience safer and more enjoyable:

- Mooring fenders and lines
- Anchor with suitable line (a “Danforth” type anchor and line that is at least 6-times the depth of the water where you will drop anchor are recommended)
- Manual-type bilge pump
- First Aid kit
- Waterproof Flashlight with extra batteries
- Tool kit with assorted screwdrivers, pliers, wrenches (including metric sizes), and electrical tape
- Oar or paddle (look for one with a boat hook on the other end)
- Spare parts, such as an extra set of spark plugs and fuses
- Navigation charts for the waters where you will be boating
- Tow rope

APPAREL

- Because of the drowning hazards associated with water sports, the operator and passengers must always wear a U.S. Coast Guard-approved vest-type personal flotation device (PFD). Be sure the PFD is properly fitting and in good condition.



- You should consider wearing slip-resistant deck shoes or water shoes for more secure footing while boating.
- Waterskiers and others engaging in water sports behind the boat must wear a wetsuit. A wetsuit can help protect against strong streams of water from the jet nozzles or impact from the water surface. These hazards could cause severe injuries to certain body orifices (rectum and vagina).
- Depending upon operating conditions, you may consider wearing a wetsuit while boating. A wet suit can help protect against hypothermia (low body temperature) when there is water spray coming into the boat, particularly if you are operating in cold water or air temperature.
- You might also consider gloves designed for water sports to help protect hands during operation, as well as while launching and docking your boat.
- You may want to consider eye protection. Water spray could get in your eyes in some circumstances which could affect your vision.

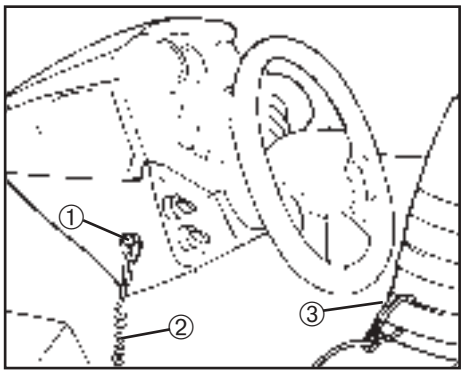
OPERATIONAL REQUIREMENTS

- Operating your Jet Boat requires skills acquired only through practice over a period of time. Take the time to learn the basic operating techniques well, before attempting more difficult maneuvers. Your Jet Boat is capable of truly exhilarating performance. Don't push your boat to the limits beyond your ability. The operator should have at least 10 hours of experience with the boat before any abrupt acceleration, sharp turns, or operation at full speed.
- NEVER operate the boat after consuming alcohol or taking drugs.

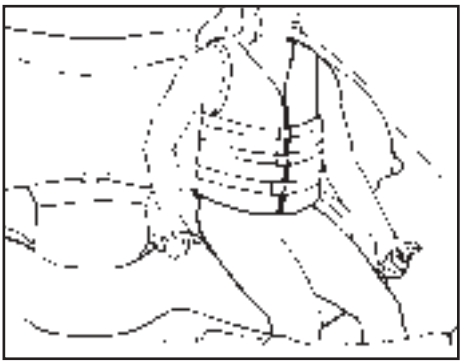
- Always perform the pre-operation checks on page 3-4 before operating to be sure your equipment is working properly.
- The operator should always attach the engine stop switch lanyard (cable) to his PFD so that the engines will stop if the operator accidentally leaves the helm. Failure to attach the lanyard could result in a runaway boat if the operator is ejected.

  Be sure the lanyard is not wrapped around the steering wheel or tangled in the controls which would prevent the lanyard from pulling away.

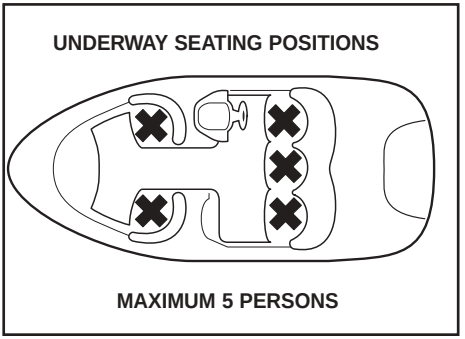
  To prevent accidental starting of the engine, always remove the lanyard from the stop switch when the engine is not running.



① Engine stop switch
② Engine stop switch lanyard
③ Lanyard clipped to PFD



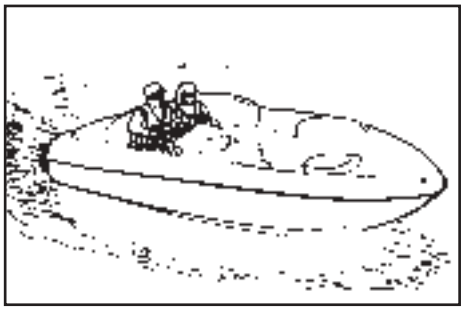
- Passengers must always sit in a designated seating area, place feet on the deck, and use the hand grips provided while the boat is in motion.



- Always watch carefully for swimmers. Stay away from swimming areas. Swimmers are hard to see and you could accidentally hit someone in the water.
- Avoid being hit by another boat! Always watch for traffic; other boaters may not be watching for you. If they don't see you, or you maneuver more quickly than other boaters expect, you risk a collision.

- Maintain a safe distance from other boats or watercraft, and also watch for boat's ski ropes or fishing lines. Obey the "Rules of the Road" (see page 1-15), and be sure to check behind you before making a turn.
- If you are pregnant or in poor health, ask your doctor's advice on whether it is safe for you to ride this Jet Boat.
- Do not attempt to modify this Jet Boat! Modifications to your boat may reduce safety and reliability, and may make the boat illegal for use.

JET BOAT CHARACTERISTICS



- Jet thrust turns the Jet Boat. If you are going faster than idle speeds, you must use engine power to turn. If you pull the throttle levers back to idle or shut off the engines, you cannot turn – even if you turn the wheel. Practice turning in an open area without obstructions until you have a good feel for this maneuver.

  Yamaha Jet Boats are water-jet propelled. The jet pumps are directly connected to the engines. This means that jet thrust will produce some boat movement whenever the engine is running. The Jet Boat has a "neutral" position, but since the Jet Boat is always producing thrust while engines are running, some forward or reverse movement may occur.

- Boats, including your Jet Boat, do not have brakes. Pull the throttle levers back to idle or stop the engines and allow water resistance to slow the boat down. Remember, however, that you have no steering control without throttle. Do not use Reverse to try to slow down from speed, because you could be ejected, the boat could be flooded, or damage could occur to the shift mechanism.

  Reverse can be used to slow down or stop during slow-speed maneuvering, such as when docking. Once the engines are idling, shift to Reverse and gradually increase engine speed to slow down or stop.

- Keep the following in mind when using reverse:

  Reverse is for launching and low speed maneuvering only. Shift only when the engines are idling or off. Do not shift while applying throttle. Make sure there are no obstacles or people behind you before shifting into reverse.

- Keep hands, feet, hair, and all other parts of your body and clothing away from jet intakes on the bottom of the hull while engine is running because they could be caught in the intake. Stop the engine and remove the lanyard before removing any debris or weeds which may have collected around the jet intake.

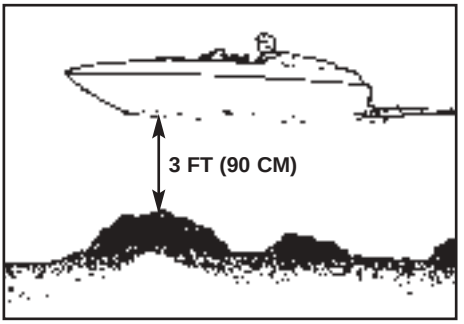
  Refer to the Jet Pump Clean-Out procedures on page 5-4 for further information.

- Do not board from the rear, use swim platform, or swim behind boat when engines are running. Strong streams of water from the jet nozzles can be dangerous and can result in serious injury when directed at body orifices (rectum and vagina).
- Never insert any object in the jet pump outlet.

CRUISING LIMITATIONS

- Do not try to jump other boat's wakes or follow another boat or watercraft too closely or you will increase your chance of colliding with other boats. Do not go over a water-ski jump, or attempt any other kind of jumping maneuver with the boat, since you risk injuring yourself or damaging your Jet Boat.

- Watch for dangerous underwater obstacles when boating in shallow water. Never operate in water that is less than 3 ft (90 cm) deep.



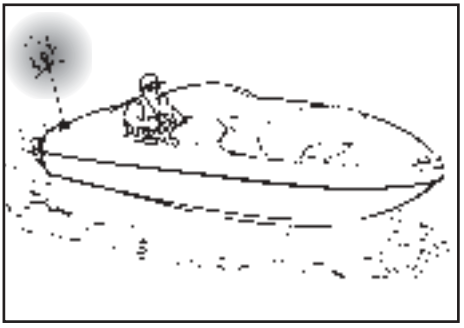
- Do not operate the boat in rough water, bad weather or when visibility is poor; this may lead to an accident causing injury or death. Operation in rough water can crack the hull or damage internal parts.

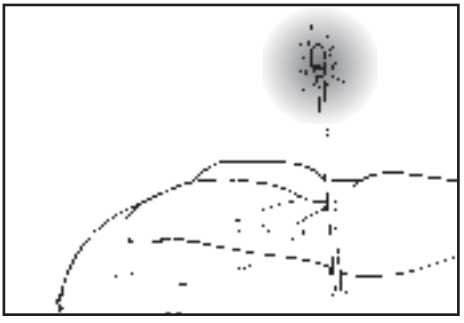
Be alert to the possibility of adverse weather. Take note of marine weather forecasts and the prevailing weather conditions before setting out in your Jet Boat.

- Leave a “float plan” with a responsible person on shore. Tell where you plan to go and when you plan to arrive, and provide a description of your boat. Advise this person if your plans change and also when you arrive to prevent false alarms. A sample float is included on page 6-6.

NIGHT OPERATION

- When using your Jet Boat before dawn and after dusk, you must have both bow and stern lights operating. When at anchor in the dark, the stern light must be lit. See page 2-12 for instructions.



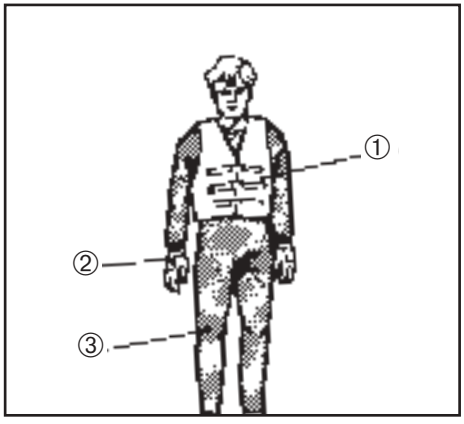


WATERSKIING

You can use the Jet Boat to tow a waterskier, using the tow eye provided. Do not attach the tow rope to any other location on the boat.

It is the boat operator's responsibility to be alert to the safety of the waterskier and others. Know and follow all state and local waterskiing regulations in effect for the waters in which you will be operating. The following are some important considerations for minimizing risks while waterskiing:

- Wear an approved PFD, preferably a brightly colored one so boat operators can see you.



① PFD

② Gloves

③ Wetsuit

- Wear a wetsuit when waterskiing to protect against injury to body orifices (rectum and vagina) from impact with the water surface if you fall or strong streams of water from the boat's jet nozzles while in the water behind the boat. A wetsuit can also help protect against hypothermia (low body temperature) and abrasions.
- A second person should be on board as an observer to watch the skier; in most states it is required by law. Let the skier direct the operator's control of boat speed and direction with hand signals. The observer should sit securely in the seat, hold onto the handles or straps provided, and place feet firmly on the floor for proper balance while facing to the rear to watch the skier's hand signals and condition. The front, port-side seat has a handle for a backward-facing observer.
- When preparing to pull a skier, operate the Jet Boat at the slowest possible speed until the boat is well away from the skier and slack in the tow rope is taken up. Be careful that the rope is not looped around anything. After checking that the skier is ready and to be sure there is no traffic or obstacles, apply enough throttle to raise the skier.
- Make smooth, wide turns. The Jet Boat is capable of very sharp turns which could exceed the abilities of the skier. Keep the skier at least 150 feet (49m), about twice the distance of a standard tow-rope from any potential hazard.
- Be alert to the hazard from the handle snapping back into the boat when the skier falls or is unable to get up on the skis.

BASIC BOATING RULES

RULES OF THE ROAD

Your Yamaha Jet Boat is legally considered a power boat. Operation of the Jet Boat must be in accordance with the rules and regulations governing the waterway on which it is used.

Just as there are rules which apply when you are driving on streets and highways, there are waterway rules which apply when you are operating your Jet Boat. These rules are used internationally, and are also enforced by the United States Coast Guard and local agencies. You should be aware of these rules, and follow them whenever you encounter another vessel on the water.

Several sets of rules prevail according to geographic location, but are all basically the same as the International Rules of the Road. The rules presented here in your Owner's Manual are condensed, and have been provided for your convenience only. Consult your local U.S. Coast Guard Auxiliary or Department of Motor Vehicles for a complete set of rules governing the waters in which you will be using your Jet Boat.

STEERING AND SAILING RULES AND SOUND SIGNALS

Whenever two vessels on the water meet one another, one vessel has the right-of-way; it is called the "stand-on" vessel. The vessel which does not have the right-of-way is called the "give-way or "burdened" vessel. These rules determine which vessel has the right-of-way, and what each vessel should do.

Stand-On Vessel
The vessel with the right-of-way has the duty to continue its course and speed, except to avoid an immediate collision. When you maintain your direction and speed, the other vessel will be able to determine how best to avoid you.

Give-Way Vessel
The vessel which does not have the right-of-way has the duty to take positive and timely action to stay out of the way of the Stand-On vessel. Normally, you should not cross in front of the vessel with the right-of-way. You should slow down or change directions briefly and pass behind the other vessel. You should always move in such a way that the operator of the other vessel can see what you are doing.

The General Prudential Rule regarding the right-of-way is that if a collision appears unavoidable, neither boat has the right-of-way. Both boats must avoid the collision.

In other words, follow the standard rules except when a collision will occur unless both vessels try to avoid each other. If that is the case, both vessels become "Give-Way" vessels.

RULES WHEN ENCOUNTERING VESSELS

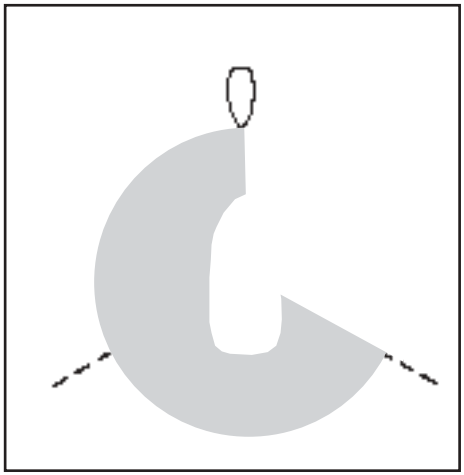
There are three main situations which you may encounter with other vessels which could lead to a collision unless the Steering Rules are followed:

Meeting (you are approaching another vessel head-on)

Crossing (you are travelling across the other vessel's path)

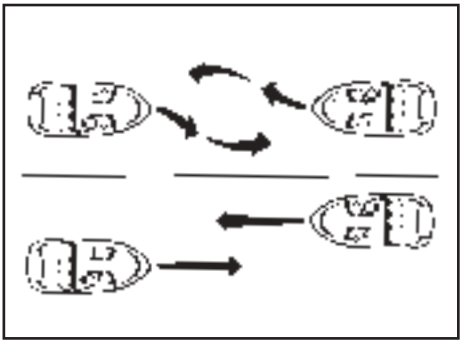
Overtaking (you are passing or being passed by another vessel)

In the following illustration, your Jet Boat is in the center. You should give the right-of-way to any vessels shown in the white area (you are the Give-Way vessel). Any vessels in the shaded area must yield to you (they are the Give-Way vessels). Both you and the meeting vessel must alter course to avoid each other.



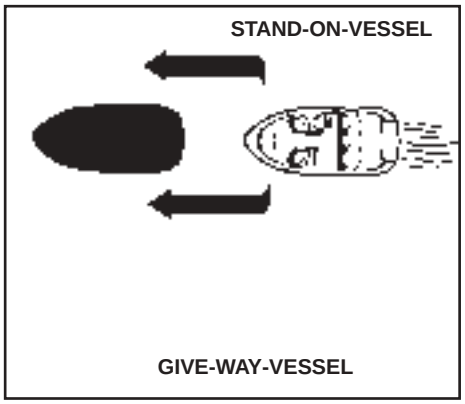
Meeting

If you are meeting another power vessel head on, and are close enough to run the risk of collision, neither of you has the right-of-way. Both of you should alter course to avoid an accident. You should keep the other vessel on your port (left) side. This rule doesn't apply if both of you will clear one another if you continue on your set course and speed.

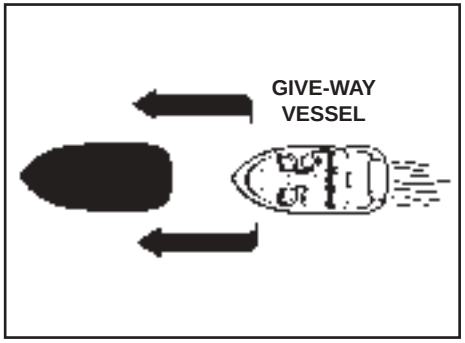


Crossing

When two power driven vessels are crossing each other's path close enough to run the risk of collision, the vessel which has the other on the starboard (right) side must keep out of the way of the other. If the other vessel is on your right, you must keep out of its way; you are the Give-Way vessel. If the other vessel is on your port (left) side, remember that you should maintain course and direction, provided the other vessel gives you the right-of-way as it should.



Overtaking
If you are passing another vessel, you are the "Give-Way" vessel. This means that the other vessel is expected to maintain its course and speed. You must stay out of its way until you are clear of it. Likewise, if another vessel is passing you, you should maintain your speed and direction so that the other vessel can steer itself around you.



OTHER SPECIAL SITUATIONS

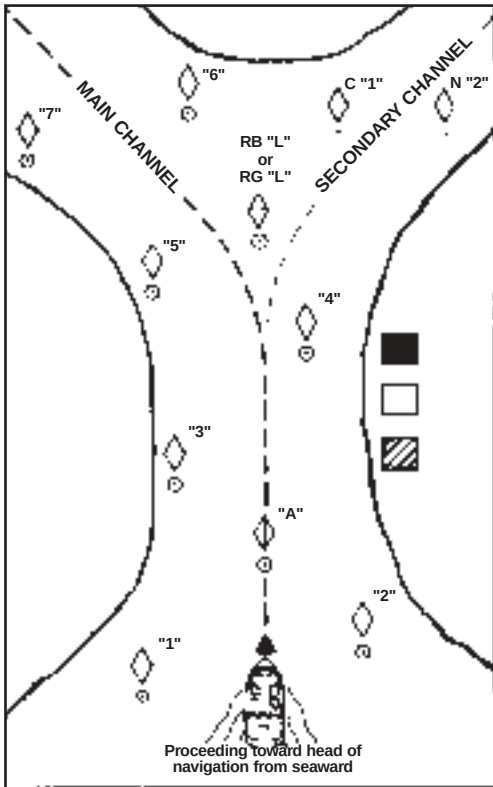
There are three other rules you should be aware of when driving your Jet Boat around other vessels.

Narrow Channels and Bends
When navigating in narrow channels, you should keep to the right when it is safe and practical to do so. If the operator of a power-driven vessel is preparing to go around a bend that may obstruct the view of other water vessels, the operator should sound a prolonged blast on the horn (4 to 6 seconds). If another vessel is around the bend, it too should sound the horn. Even if no reply is heard, however, the vessel should still proceed around the bend with caution.

Fishing Vessel Right-of-Way
All vessels which are fishing with nets, lines or trawls are considered to be "fishing vessels" under the International Rules. Vessels with trolling lines are not considered fishing vessels. Fishing vessels have the right-of-way regardless of position. Fishing vessels cannot, however, impede the passage of other vessels in narrow channels.

Sailing Vessel Right-of-Way
Sailing vessels should normally be given the right-of-way. The exceptions to this are:

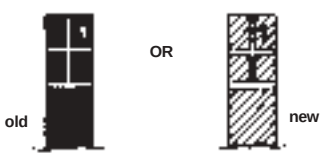
1. When the sailing vessel is overtaking the power-driven vessel, the power-driven vessel has the right-of-way.
2. Sailing vessels should keep clear of any fishing vessel.
3. In a narrow channel, a sailing vessel should not hamper the safe passage of a power-driven vessel which can navigate only in such a channel.



SECONDARY CHANNEL BUOYS
STARTS NEW NUMBERING SYSTEM

C "1" **CAN BUOY**

Odd number. Leave to port.



N "2" **NUN BUOY**

Even number. Leave to starboard.

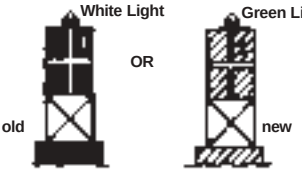
No change

MAIN CHANNEL BUOYS

"1" "3" "5" "7"

LIGHTED BUOY (Port Hand)

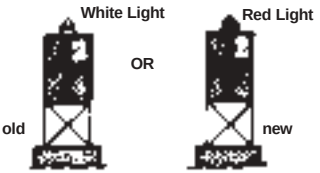
Odd number, increasing toward head of navigation. Leave to port (left) proceeding upstream.



"2" "4" "6"

LIGHTED BUOY (Starboard Hand)

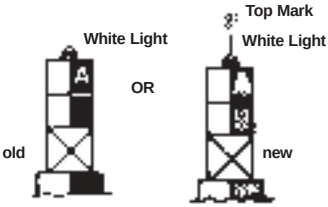
Even number, increasing toward head of navigation. Leave to starboard (right) proceeding upstream.



"A"

LIGHTED SAFE WATER BUOY

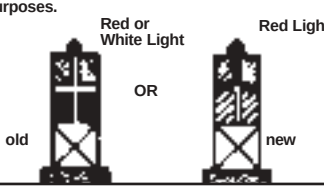
No number. Marks midchannel, pass on either side. Letter has no lateral significance, used for identification and location purposes.



RB "L" RB "L"

LIGHTED PREFERRED CHANNEL TO PORT BUOY

No number. Topmost band red - preferred channel is to left of buoy. Letter has no lateral significance, used for identification and location purposes.



Reading Buoys and Other Markers

The waters of the United states are marked for safe navigation by the lateral system of buoys. Simply put, buoys and markers have an arrangement of shapes, colors, numbers and lights to show which side of the buoy a boater should pass on when navigating in a particular direction. The markings on these buoys are oriented from the perspective of being entered from seaward (the boater is going towards the port). This means that red buoys are passed on the starboard (right) side when proceeding from open water into port, and black buoys are to port left) side. When navigating out of port, your position with respect to the buoys should be reversed; red buoys should be to port and black buoys to starboard.

Many bodies of water used by boaters are entirely within the boundaries of a particular state. The Uniform State Waterway Marking System has been devised for these waters. This system uses buoys and signs with distinctive shapes and colors to show regulatory or advisory information. These markers are white with black letters and orange borders. They signify speed zones, restricted areas, danger areas, and general information.

Remember, markings may vary by geographic location. Always consult local boating authorities before driving your Jet Boat in unfamiliar waters.

TO GET MORE BOATING SAFETY INFORMATION

Be informed about boating safety. Additional publications and information can be obtained from many organizations, including the following:

United States Coast Guard
Consumer Affairs Staff (G-BC)
Office of Boating, Public, and Consumer Affairs
U.S. Coast Guard Headquarters
Washington, D.C. 20593-0001

Boating Safety Hotline:
1-800-368-5647

BOATING EDUCATION

This manual cannot provide complete training on all aspects of boat operation. All operators of this Jet Boat are encouraged to seek additional training on boat handling and safety. Many states require operators under the age of 18 to be licensed in small boat operation and offer training and certification courses.

Many different agencies and organizations offer boating training and safety. Some of these are listed below. Check your local telephone directory for the telephone numbers and addresses in your area.

- U.S. Coast Guard Auxiliary
- American Red Cross
- National Fishing and Wildlife Foundation
- Power Squadrons
- Sports Fishing Institute
- State Boating Offices

ACCIDENT REPORTING

Boat operators are required by law to file a Boating Accident Report with their state boating law enforcement agency if their boat has been involved in any of the following boating accidents:

1. There is loss of life or probable loss of life.
2. There is personal injury which requires medical attention beyond first aid.
3. There is damage to boats or other property which exceeds $500.00.
4. There is complete loss of a boat.

Contact local law enforcement personnel if a report is necessary.

ENJOY YOUR JET BOAT RESPONSIBLY

You share the areas you enjoy when operating your Jet Boat with others and with nature. So your enjoyment includes a responsibility to treat other people, and the lands, waters, and wildlife with respect and courtesy.

Whenever and wherever you operate your Jet Boat, think of yourself as the guest of those around you. Remember, for example, that the sound of your Jet Boat may be music to you, but it could be just noise to others. And the exciting splash of your wake can make waves others won't enjoy. Avoid boating close to shoreline homes and waterfowl nesting areas or other wildlife areas, and keep a respectful distance from fisherman, other boats, swimmers, and populated beaches. When travel in areas like these is unavoidable, drive slowly and obey all laws.

Remember that pollution can be harmful to the environment. Do not refuel or add oil where a spill could cause damage to nature. And keep your surroundings pleasant for the people and wildlife that share the waterways: don't litter!

When you use your Jet Boat responsibly, with respect and courtesy for others, you help ensure that our waterways stay open for the enjoyment of a variety of recreational opportunities.

Chapter 2
FEATURES & FUNCTIONS

LOCATION OF MAIN COMPONENTS 2-1

OPERATION OF CONTROLS AND OTHER FUNCTIONS 2-5
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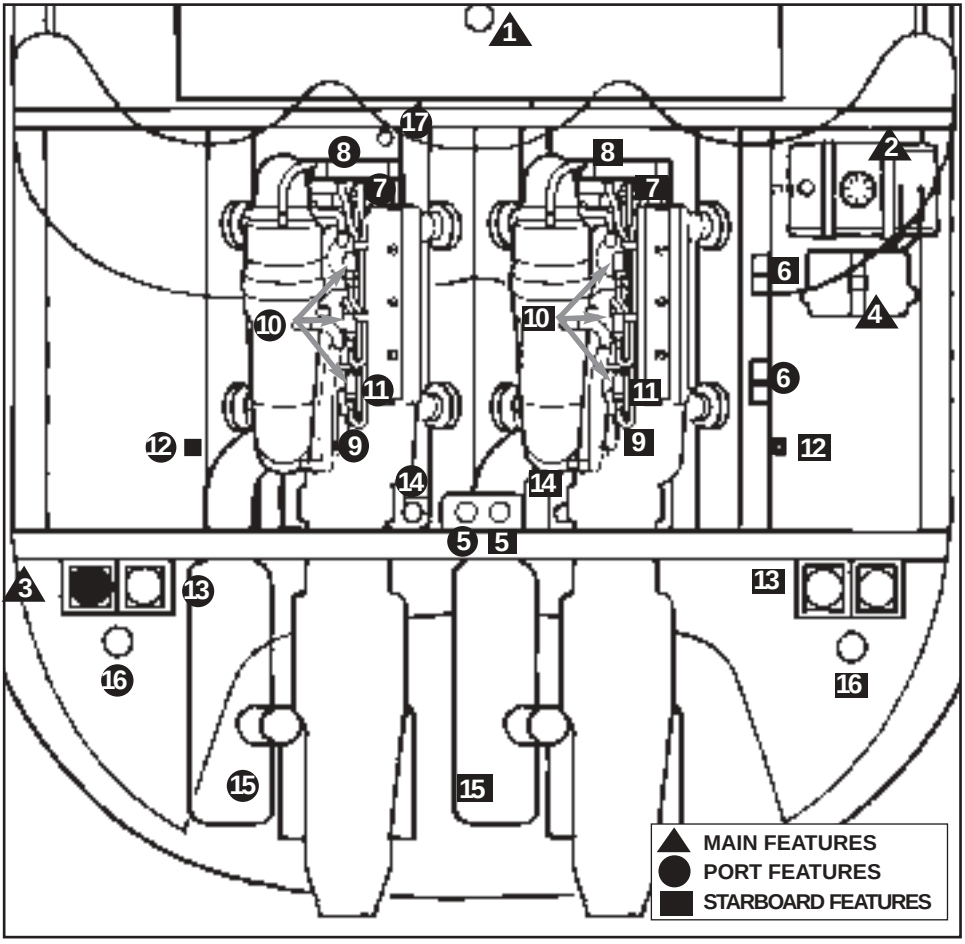
- Gauges 2-9
- Overheat Warning System 2-11
- Switches 2-12
- Engine Hood 2-13
- Storage Compartments 2-14

LOCATION OF MAIN COMPONENTS

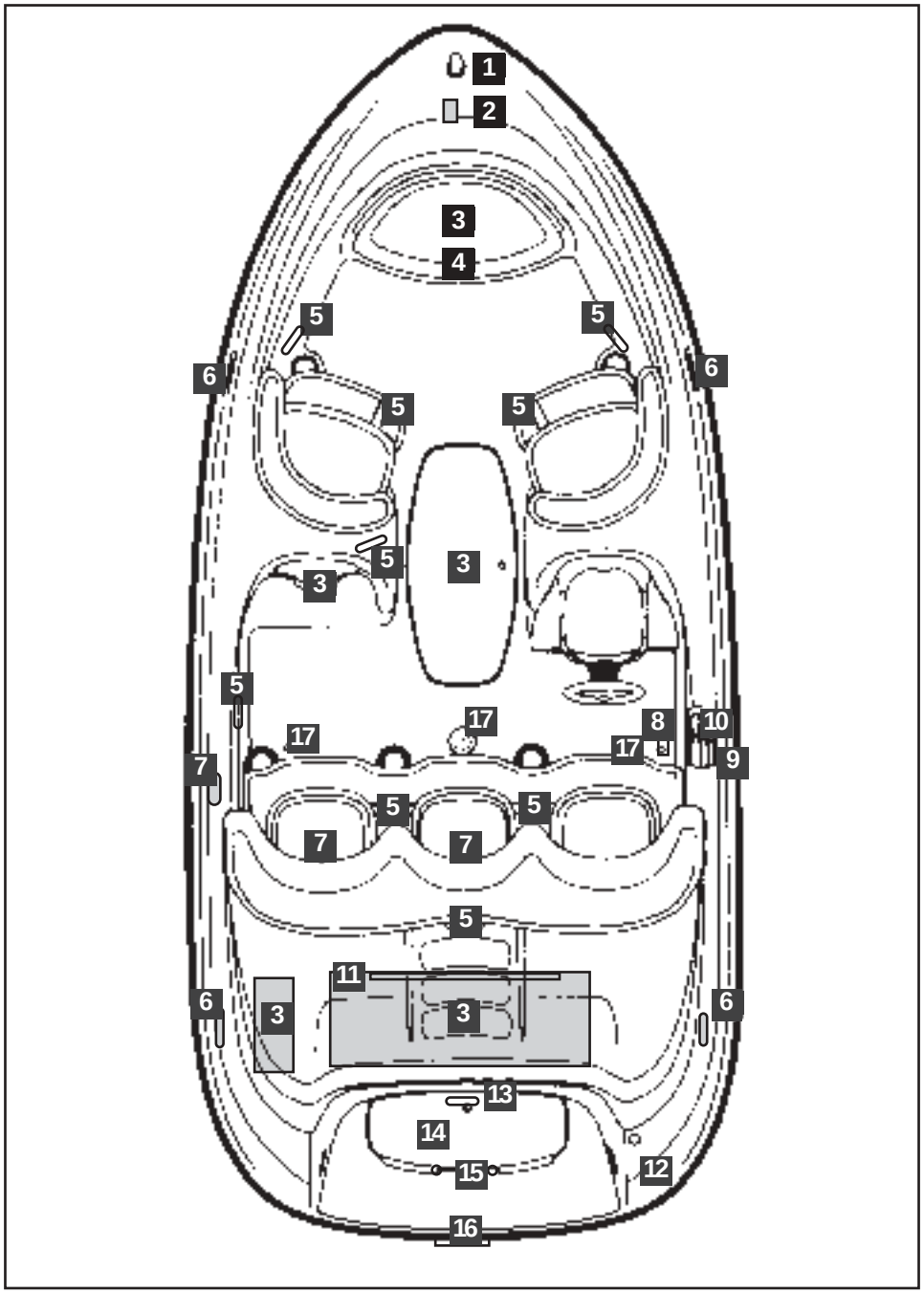


Main Features:

1 Fuel Tank
2 Oil Tank
3 Blower Motor
4 Battery

Port/Starboard Features:

5 Flush Attachments
6 Fuel Filters
7 Electrical Boxes
8 Ignition Coil Holders
9 High Tension Cords
10 Spark Plugs
11 Silencer Covers
12 Hood Supports
13 Engine Compartment Vent Outlets
14 Engine Compartment Drain Plugs
15 Muffler Boxes
16 Fuel Tank Compartment Air Ventilation
17 Fuel Tank Compartment Drain Plug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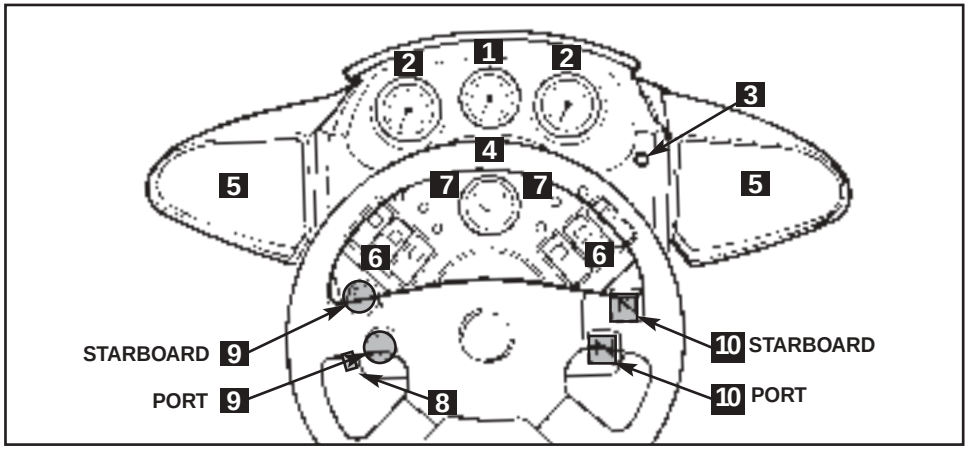
LOCATION OF MAIN COMPONENTS:

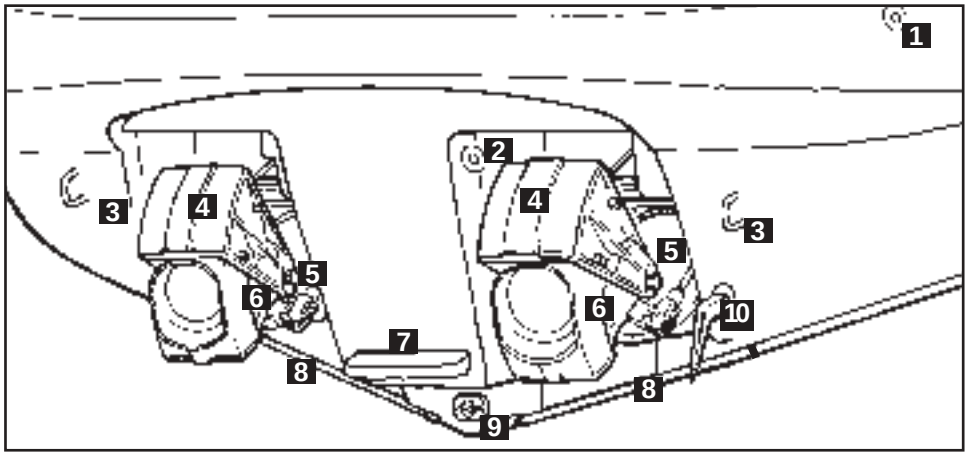
1. Bow light
2. Bow eye
3. Storage compartments
4. Fire extinguisher holder
5. Grab handles
6. Cleats
7. Fuel system inspection access cover
8. Fuel cocks
9. Throttles
10. Shifter
11. Stern light storage
12. Stern light socket
13. Ski tow hook
14. Jet pump cleanout access panel
15. Pump cleanout interlock switches
16. Rear boarding step
17. Deck drains

LOCATION OF MAIN COMPONENTS



Control Features:

1. Speedometer
2. Tachometer
3. Low oil warning light
4. Steering wheel
5. Mirrors
6. Switches
7. Breakers
8. Fuel gauge
9. Lanyard switch
10. Ignition switch / keys

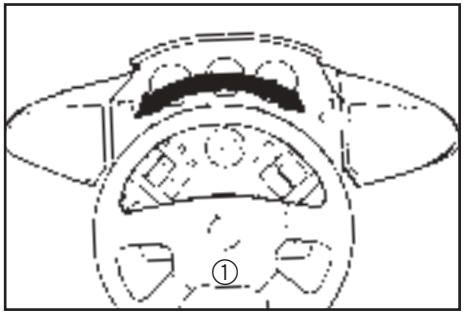


Control Features:

1. Bilge outlet
2. Clean-out compartment drain
3. Trailer strap eyes
4. Pump gates
5. Jet pumps
6. Steering nozzles
7. Boarding step on transom
8. Ride plates
9. Hull drain plug
10. Speedometer pick-up

OPERATION OF CONTROLS AND OTHER FUNCTIONS

STEERING



① Steering wheel

Your Jet Boat can be steered by turning the steering wheel the same direction you wish to travel, to the right or left. When the wheel is turned, the angle of the jet (output) nozzles at the rear of the craft is changed, and the change in direction of the nozzles changes the direction of the boat accordingly. Because the strength of the jet flow output (thrust) will determine the speed and direction of a turn, the throttle must always be opened above idle when making a turn, except at idle speed. More thrust will turn the boat more sharply.

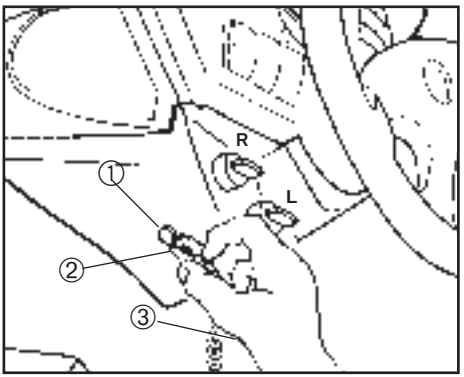
Because boats steer from the stern (rear), the stern of the boat swings out in the opposite direction of your turn. If you turn to the starboard (right), for example, the stern of the boat will swing to the left. Keep this in mind when navigating near a person in the water, such as a down skier, or an obstacle, such as a dock.

⚠WARNING

You need engine power to turn. Pulling the throttle levers back to idle when traveling faster than idle speeds or shutting off engines can cause you to hit an obstacle you are attempting to avoid, even if you are turning the steering wheel.

ENGINE STOP SWITCH LANYARD

The lock plate on the end of the lanyard must be attached to the engine stop switch for the engines to run. The lanyard must be attached to a secure place on the operator's personal flotation device (PFD). Should the operator fall overboard or leave the helm, the lanyard will pull out the lock plate, stopping ignition to both engines. This will prevent the boat from running away under power.



① Engine stop switch

② Lock-plate

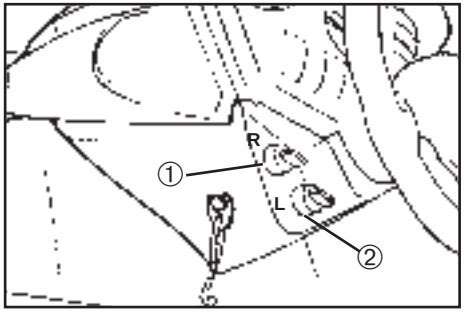
③ Lanyard

⚠WARNING

- **Always attach the engine stop switch lanyard to your personal flotation device (PFD) before starting the engine. Failure to attach the lanyard could result in a runaway boat if the operator is ejected.**
- **Do not attach the lanyard to clothing that could tear loose. Do not route the lanyard in such a way that it could become entangled, preventing it from functioning.**
- **Avoid accidentally pulling the lanyard during normal operation. Once the engine has stopped you have no steering control of the boat which could result in an accident. Also, without engine power, the boat could slow rapidly from planing speed. This could cause people and objects in the boat to be thrown forward, which could cause injury.**

MAIN SWITCHES

There is a main switch for each engine. The main switches control the ignition and electrical circuits as follows:



① Starboard (right) engine
② Port (left) engine

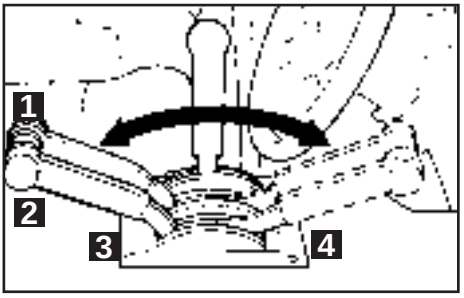
OFF:
Ignition circuits are switched off. The engine cannot be started but other switches will operate. (The key can be removed.)

ON:
Ignition circuits are switched on. (The key cannot be removed).

START:
The starter motor will turn to start the engine. (When the key is released, it returns automatically to "ON.")

NOTE:
The engine will not start when the engine stop switch lanyard lock plate is removed from the engine stop switch. The starter motor will turn over without the lanyard attached.

THROTTLE LEVERS



1 Throttle lever, port (left) engine
2 Throttle lever, starboard (right) engine
3 Idle
4 Full speed

⚠WARNING

Before starting the engine, always check the operation of each throttle lever. It should move smoothly through its full range of operation. Otherwise, there could be loss of control and an accident.

A separate throttle lever controls each engine. In normal operation the throttle levers are moved together. Moving the throttle levers forward increases engine speed. Move both throttles to the idle position before using the shift lever.

SHIFT LEVER

⚠WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING.

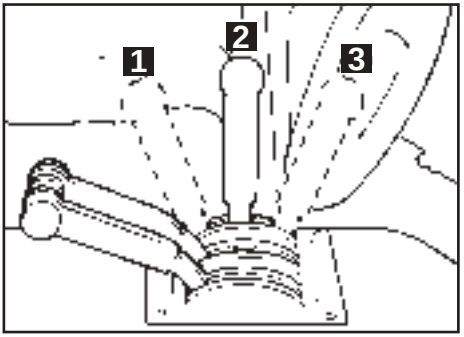
- **Check throttle, steering and shift lever for proper operation before starting the engine.**
- **Shift into neutral before starting engines.**
- **Put throttle levers in idle position before shifting.**
- **Make sure there are no people or objects behind the boat before starting or shifting into Reverse.**
- **When operating in Reverse, go slowly. Do not open the throttle more than half. Otherwise, the boat may become unstable, which could result in loss of control and an accident.**
- **Do not shift into Reverse while traveling at planing speeds. Loss of control, boat swamping, or damage to the boat could occur.**

CAUTION:

Do not use control levers as grab handles because damage can occur.

NOTE:

This Jet Boat is equipped with a mechanical interlock that prevents shift lever movement unless both throttle levers are put in the idle position first. It also has a start-in-gear protection neutral switch that prevents the engines from cranking if the shift lever in not in Neutral.



1 Reverse

2 Neutral

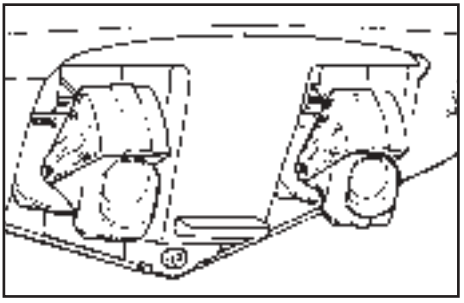
3 Forward

The shift lever controls the direction of travel.

The drive line on the Jet Boat is direct drive, so jet thrust is always being produced while the engines are running. The direction of the boat is controlled by jet pump gates which direct the flow of the jet thrust as follows:

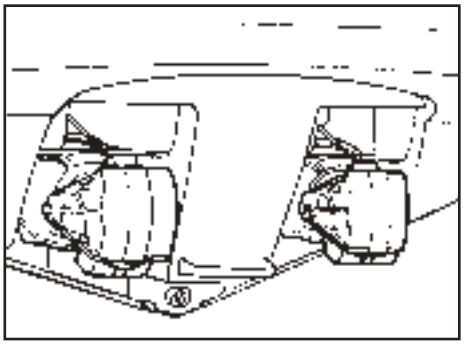
Forward

The jet pump gates are lifted all the way up. All jet thrust is to the rear, which moves the boat forward.



Neutral

The jet pump gates are dropped down part way over the jet nozzles. Some jet thrust is to the rear and some jet thrust is redirected forward. This balance of thrust acts like “neutral” to keep the boat from moving.

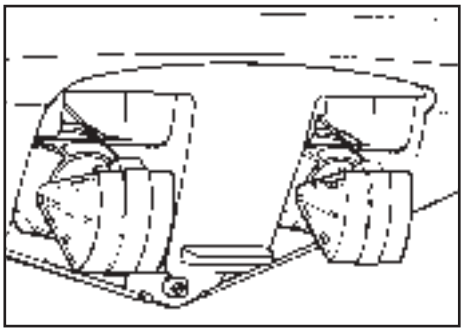


⚠WARNING

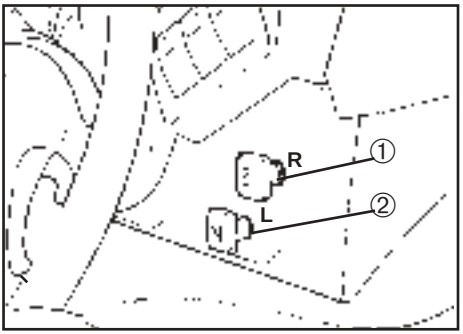
Leave the throttles in the idle position when Neutral is selected. The boat will start moving as if it was in Forward or Reverse if engine speed is increased above idle in Neutral.

Reverse

The jet pump gates are dropped all the way down over the jet nozzles. Jet thrust is redirected toward the bow of the boat, which moves the boat backward.



CHOKE KNOBS



① Choke knob (Starboard)
② Choke knob (Port)

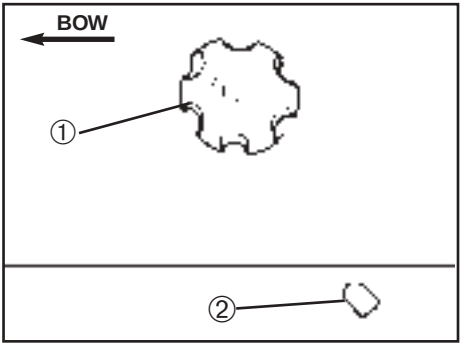
Pulling these knobs supplies a rich fuel-air mixture required to start the engines.

NOTE:

Refer to Starting The Engines on pages 3-11 to 3-13 for proper operation.

FUEL TANK FILLER CAP

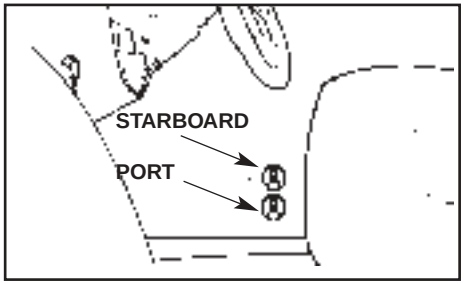
To remove the fuel tank filler cap, turn it counterclockwise.



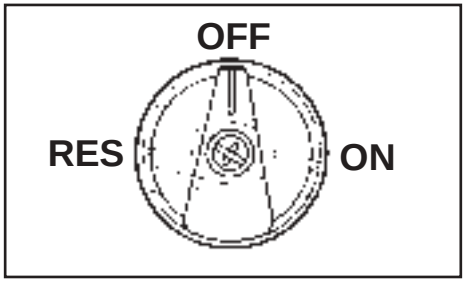
① Fuel tank filler cap
② Fuel tank vent

Be sure to tighten the cap securely before operating.

FUEL COCKS



The fuel cocks supply fuel from the tank to the carburetors of each engine. The fuel cock has three positions:



① Fuel cock

1. **OFF:** With the knob in this position, fuel does not flow. Always turn the knobs to this position when the engines are not running.
2. **ON:** With the knob in this position, fuel flows to the carburetors. Normal running is done with the knobs in this position.
3. **RES:** This position selects "RESERVE." If you run out of fuel in the "ON" position, turn the knobs to this position to be able return to port to refuel. Remember to fill the tank at the first opportunity. After refueling, return the fuel cock knob to the "ON" position for further boating.

CAUTION:

Sharp turns with a partial tank of fuel may result in fuel starvation due to fuel sloshing. Turn the fuel cocks to Reserve if the engines begin to hesitate during aggressive turning or high speed operation to avoid poor performance or engine damage.

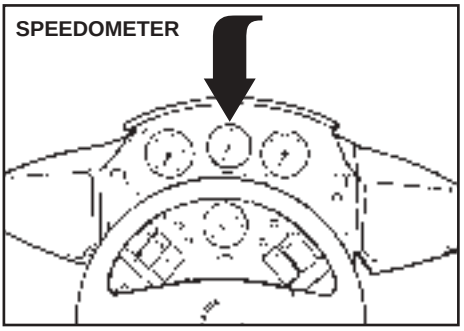
⚠WARNING

Always place the fuel cocks in the "OFF" position when transporting or storing the Jet Boat. Otherwise, fuel could leak out into the engine or engine compartment, which could create a fire or explosion hazard.

GAUGES

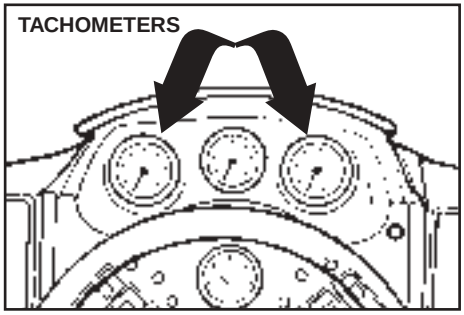
1. Speedometer

This meter shows the boat speed in miles per hour (mph).



2. Tachometers

The Jet Boat has two tachometers which display engine rpm. The one on the left is for the port engine. The one on the right is for the starboard engine. For cruising, adjust the throttle levers so both engines are running at the same rpm.

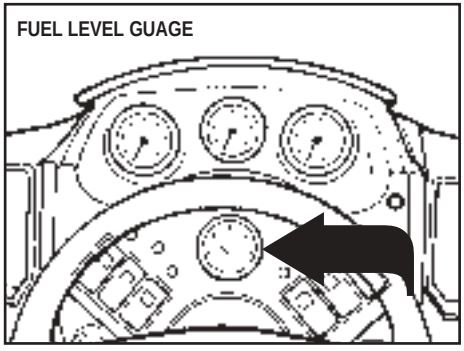


NOTE:

Because of the mechanical throttle linkage, the throttle levers may not be exactly even with one another when the engines are running at the same rpm.

3. Fuel Level Gauge

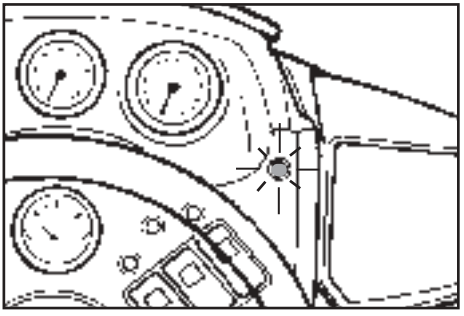
The fuel level gauge shows the amount of fuel in the fuel tank. The ignition switch must be in the "ON" position to activate the gauge.



Always consider the distance you are travelling and the amount of available fuel you have. Be sure you have enough fuel to reach the next fuel stop. Be sure to begin returning to the port *before* you have consumed a half a tank of fuel.

4. Oil Level Warning Light

This light comes on when the oil tank is too low to continue normal operation for much longer. Refill the oil tank as soon as possible (see "Filling the Oil Tank," page 3-3).



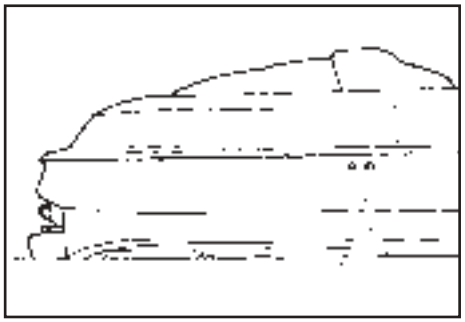
CAUTION:

If the oil level warning indicator comes on, refill with engine oil as soon as possible. The engines will be severely damaged if they are run without oil.

OVERHEAT WARNING SYSTEM

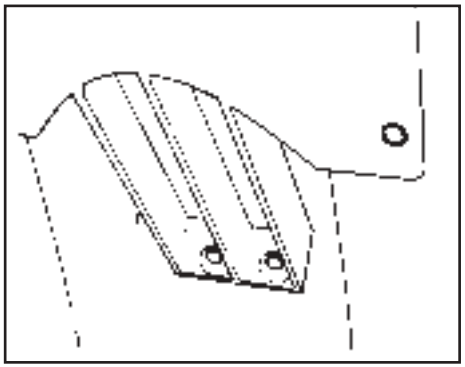
The engine has an overheat warning device. If either engine starts to overheat, the engine speed of the affected engine will be limited to about 3,500 rpm.

Each engine is equipped with cooling-water pilot outlets on the starboard side of the hull. Check that water comes out of the outlet while the engine is running, particularly while applying throttle. If you do not see any water at the outlet, cooling water may not be circulating in the engine.



NOTE:

If water cooling passages on the engines are dry, it will take about 20 seconds for water to reach the pilot outlets after starting.



If water is not circulating, something may be clogging the jet intake grate. Refer to the Jet Pump Clean-Out procedures on page 5-4 for further information.

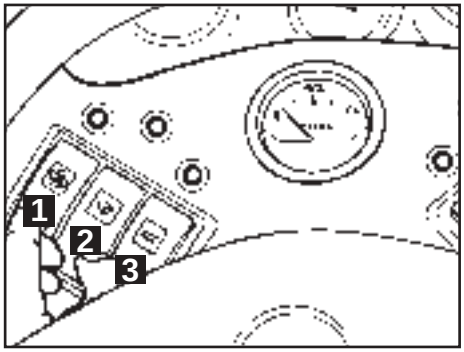
CAUTION:

If the cause of overheating cannot be found and corrected, take special precautions to avoid major engine damage while you return to shore.

SINGLE ENGINE OVERHEATING— Shut off the overheating engine and use the properly running engine to return to shore. Operate at "no-wake" speed to prevent water from flooding the non-operating engine through the cooling water intake.

BOTH ENGINES OVERHEATING— If getting a tow from another vessel is not possible, operate both engines just slightly above idle while you return to shore. If you can be towed, refer to "Towing the Jet Boat" on page 5-3.

SWITCHES

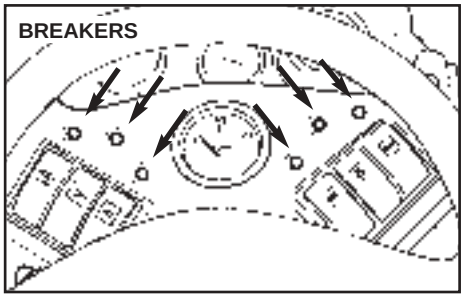


1 Blower
2 Bilge Pump
3 ACC

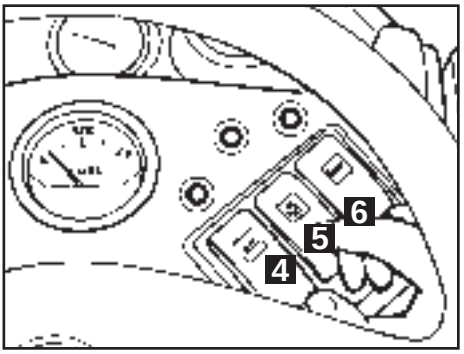
Blower
Press this switch to turn on the blower to ventilate the engine compartment. See 3-9 for more information.

Bilge Pump
Press this switch to activate the bilge pump. See page 3-8.

ACC
The accessory switch can be used to control an installed accessory.



Switch Circuit Breakers
The electrical circuit for each switch is protected by a circuit breaker. If the button above a switch pops out, push it back in with your finger. If it pops out again, ask your Yamaha dealer to inspect the electrical system.



4 ACC
5 Lights
6 Horn

ACC
The accessory switch can be used to control an installed accessory.

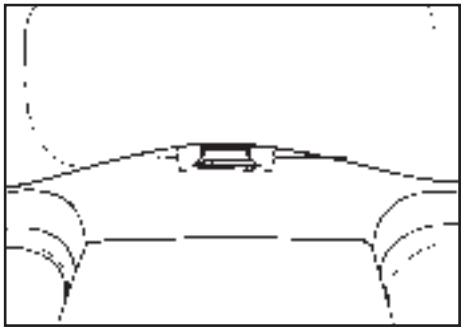
Lights
This toggle switch controls the required on-board lighting. Press the switch up to turn on both the bow light and stern light for night running. Press the switch down to operate the stern light alone when at anchor. Put the switch in the middle position to turn off lights. See page 3-9 for more information.

Horn
Pressing this switch activates the horn. The horn can be used to signal other boats as required by the “Rules of the Road” (see page 1-15).

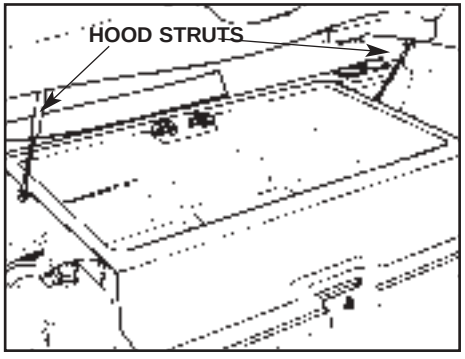
ENGINE HOOD

To open the engine hood, lift the latch hook upward and lift the hood. The hood is supported by gas-filled struts.

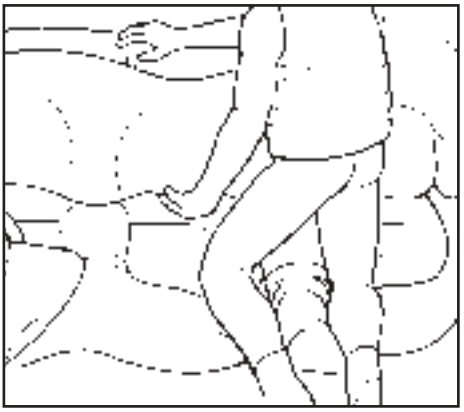
Hood Latch



Hood Support Struts



Closing Hood



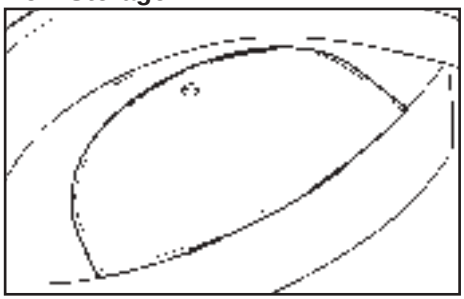
To close the hood, push the hood down to the closed position.

NOTE:
Make sure the hood is firmly secured with the latch.

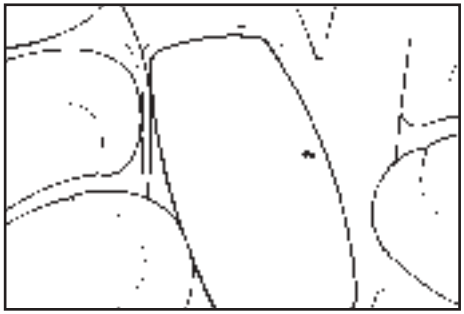
STORAGE COMPARTMENTS

There are five on-board storage compartments.

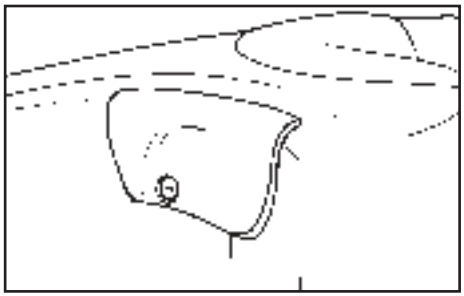
Bow Storage



Ski Locker



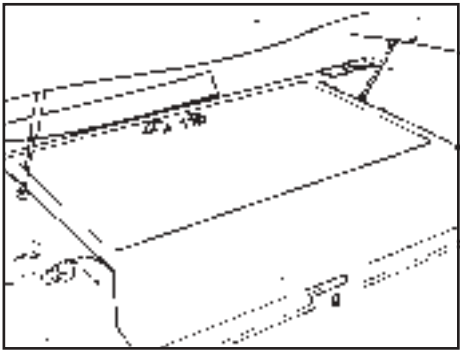
Port Side, behind front seat



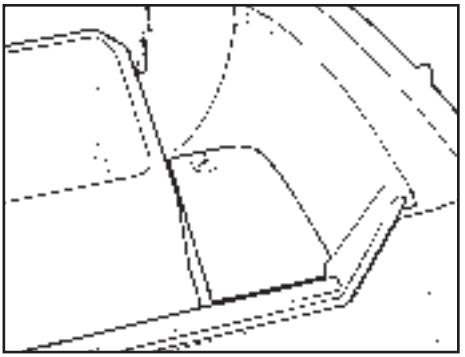
NOTE:

There is a drain plug in the bottom of the port side storage compartment. Pull the plug out to drain water, and press down firmly to seal. The bilge pump will drain excessive water.

Under Hood, Center Tray



Under Hood, Port Side



NOTE:

Make sure all panels and covers are in place prior to launching or driving the Jet Boat.

Chapter 3
OPERATION

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Engine Oil 3-2

OIL INJECTION SYSTEM 3-2

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FUEL REQUIREMENTS

GASOLINE (PETROL)

Use regular unleaded 87 octane (R+M ÷ 2) gasoline (petrol).

⚠WARNING

GASOLINE (PETROL) AND ITS VAPORS ARE HIGHLY FLAMMABLE AND EXPLOSIVE!

- **Do not smoke when refueling, and keep away from sparks, flames, or other sources of ignition.**
- **Stop engine and turn ignition keys to Off before refueling.**
- **Refuel in a well-ventilated area. If the Jet Boat is in the water, be sure it is securely moored to the fueling dock. All passengers must be out of the boat during refueling.**
- **Take care not to spill gasoline (petrol). If gasoline (petrol) spills, wipe it up immediately with dry rags. Always properly dispose of gasoline-soaked rags.**
- **Avoid overfilling the fuel tank. Stop filling when the fuel level just reaches the bottom of the filler tube. Do not fill up the filler tube because fuel expands as it warms up and could overflow.**
- **Tighten the filler cap securely after refueling.**
- **If you should swallow some gasoline (petrol), inhale a lot of gasoline (petrol) vapor, or get gasoline (petrol) in your eyes, get immediate medical attention.**
- **If any gasoline (petrol) spills onto your skin, immediately wash with soap and water. Change clothing if gasoline (petrol) spills on it.**

CAUTION:

Use only fresh gasoline (petrol) that has been stored in clean containers.

Gasohol

There are two types of gasohol: gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if ethanol content does not exceed 10% and the fuel meets minimum octane ratings. Gasohol containing methanol is not recommended by Yamaha because it can cause fuel system damage or engine performance problems.

Ring Free Fuel Additive

Gasoline is a precise blend of many different substances, each chosen to give certain characteristics. Gasoline blends have been changing in recent years in response to concerns about pollution and resulting emissions regulations. One of the most obvious changes has been the elimination of lead from fuels.

As gasoline has changed, the amount of additives such as aromatics and oxygenates has increased. These additives are important for the engines in passenger cars, but they can have detrimental effects in marine engines, particularly 2-cycle engines, because of increased deposits in the combus-

tion chamber. When enough deposits collect, piston rings begin sticking. Performance drops and engine wear increases dramatically.

While many additives available may reduce deposits, Yamaha recommends the use of Ring Free Fuel Additive, available from your Yamaha dealer. Ring Free has repeatedly proven its ability to clean combustion deposits from inside the engine, notably in the critical piston-ring-land area, and fuel system components. Follow product labeling for use instructions.

ENGINE OIL

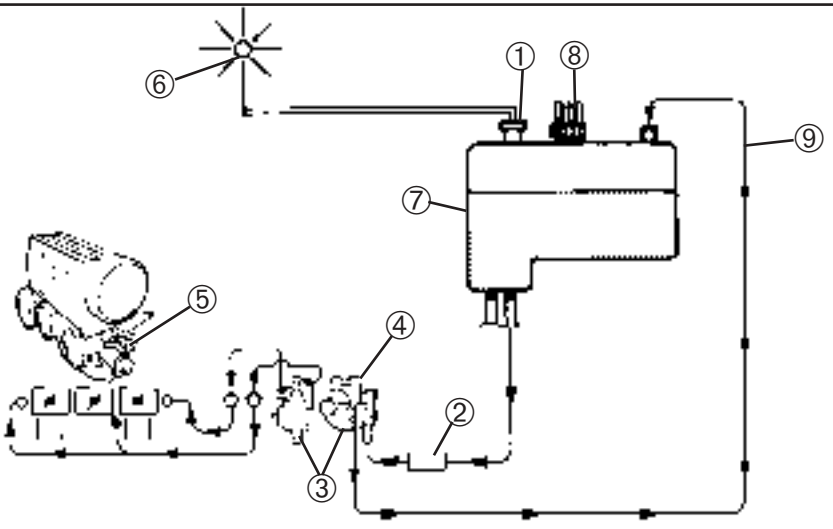
Recommended oil: YAMALUBE FOR OUTBOARDS TWO-CYCLE LUBRICANT. If YAMALUBE FOR OUTBOARDS is not available, another 2-cycle engine oil with a NMMA®-certified TC-W3™ rating may be used.

OIL INJECTION SYSTEM

These engines use Yamaha's oil injection system, which provides superior lubrication by ensuring the proper oil ratio for all operating conditions. No fuel premixing is necessary (except during break-in). Simply pour gasoline (petrol) into the fuel tank and oil into the oil tank.

CAUTION:

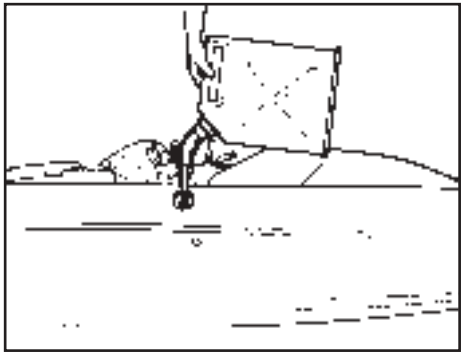
Do not allow the oil tank to empty completely. The oil injection pump must be bled to ensure proper oil flow after the tank empties. Otherwise, engine damage may occur. Refer to page 4-12, "Bleeding the Oil Injection Pump," for correct procedure.



① Oil level sender	④ Oil pump bleeder	⑦ Oil tank
② Oil filter	⑤ Carburetor	⑧ Oil tank cap
③ Oil-injection pump	⑥ Oil level warning light	⑨ Oil return line

GASOLINE (PETROL) AND ENGINE OIL FILLING

FILLING THE GASOLINE (PETROL) TANK



Open the fuel tank filler cap, and slowly add fuel to the fuel tank. Be careful not to spill fuel or overfill the tank.

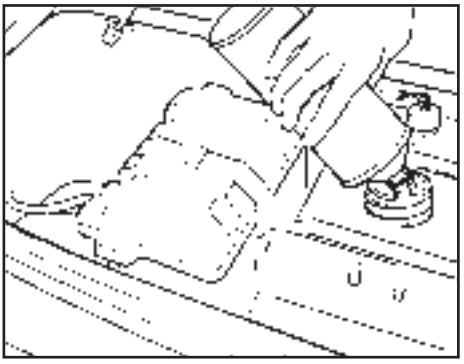
Stop filling when the fuel just becomes visible in the bottom of the filler tube. Do not “top off” the tank, because gasoline (petrol) could spill out. Be sure to tighten the cap securely.

CAUTION:

Be careful when refueling. Avoid getting water or other contaminants in the fuel tank. Contaminated fuel can cause poor running or engine damage.

Fuel tank capacity: 34 US gal (129 lit)

FILLING THE OIL TANK



Open the engine hood, then open the oil tank filler cap. Very slowly add engine oil to the oil tank. Stop pouring when the oil just reaches the bottom of the filler neck. Be sure to tighten the cap securely.

⚠WARNING

- **Oil in the bilge is a serious fire hazard. Wipe up any spilled oil immediately and properly dispose oil soaked rags.**
- **Do not add gasoline to the oil tank. Fire or explosion could result.**

Oil tank capacity: 2.6 US gal (10 lit)

PRE-OPERATION CHECKS

CHECK LIST

Before Operating this Jet Boat, perform the following checks:

⚠WARNING

If any item in the Pre-Operation check is not working properly, have it inspected and repaired before operating the Jet Boat. Otherwise an accident could occur.

ITEM	CHECK	PAGE REF.
STEERING	Check for proper steering operation.	3-5
THROTTLE	Check for proper throttle operation.	3-5
SHIFTING	Check for proper shift operation.	3-5
FIRE EXTINGUISHER	Check readiness of the extinguisher.	3-6
HULL	Check the hull for damage or cracks before launching.	
JET (WATER) INTAKES	Check that no debris is in the intakes before launching.	3-7
FUEL SYSTEM	Check fuel system for leaks.	3-7
FUEL AND ENGINE OIL LEVELS	Check fuel and oil level; add as necessary.	3-7
BATTERY	Check battery condition, mounting, and connection.	3-7
DRAINAGE SYSTEM	Check, and remove all water and fuel residue before launching. Be sure drain plugs are tightened.	3-8
ENGINE COMPARTMENT	Operate the blower for at least 4 minutes. Open engine hood and check to be sure no gasoline vapors are present.	3-9
ENGINE HOOD	Check that hood latch is secure.	2-13
LIGHTS AND HORN	Check lights to be sure they operate. Press horn button to be sure it operates.	3-9
SWITCHES	Check operation of the ignition start switches and engine stop switch lanyard.	3-10
COOLING WATER PILOT OUTLETS	Check that water comes out while the engines are running.	3-10

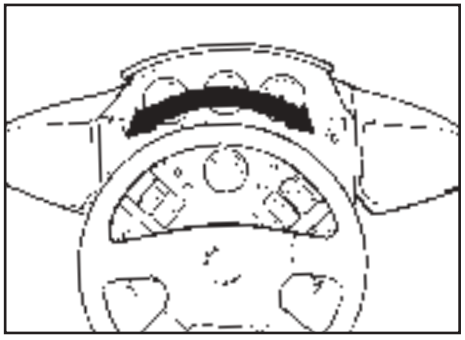
NOTE: Steering and Shifting Pre-Operation Checks will require two persons, one person to operate controls and one person to observe proper operation at the stern.

NOTE:

Pre-operation checks should be made each time the boat is used. This procedure can be accomplished thoroughly in a short time. The added safety and reliability the checks assure is worth the time involved.

CHECK POINTS

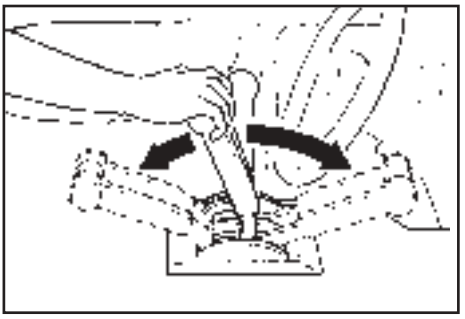
Steering



Make sure the wheel is not loose. There should not be any free play, either in-and-out or in rotation. Turn the steering wheel full-right and full-left to make sure operation is smooth and unrestricted throughout the whole range.

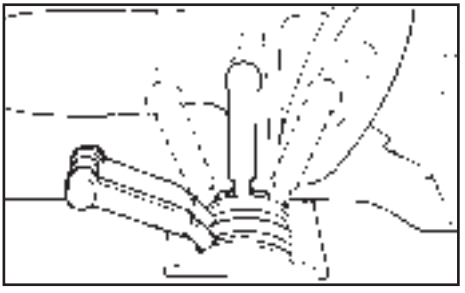
Make sure both jet nozzles change directions as the steering wheel is turned. The jet nozzles should point to starboard (right) when the wheel is turned right. The jet nozzles should point to port (left) when the wheel is turned left. There should not be free play between the steering wheel and the jet nozzles.

Throttle

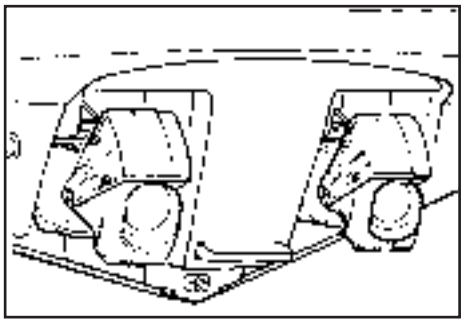


Operate the throttle levers several times to make sure there is no hesitation in their travel. Operation should be smooth over the complete range of motion, and each lever should return completely to the idle position.

Shifting



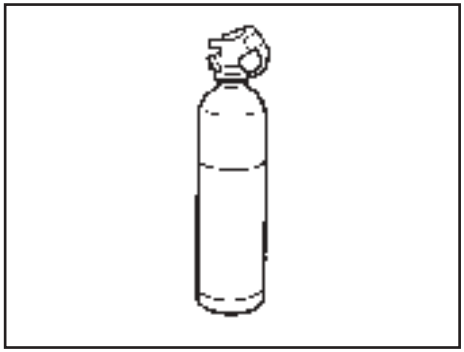
Before launching, make sure both jet pump gates drop down over the jet nozzles to their stopper positions when the shift lever is moved to the “Reverse” position. Also make sure both jet pump gates return to the full up stopper position when the shift lever is moved to the “Forward” position.



⚠WARNING

Shift only with the engine idling. Do not shift when applying throttle.

Fire Extinguisher



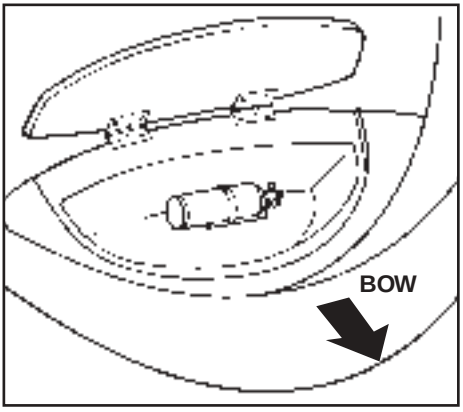
Make sure the fire extinguisher is aboard and full. See the instructions supplied by the fire extinguisher manufacturer to determine proper indication of condition.

⚠WARNING

Always carry a fire extinguisher on board.

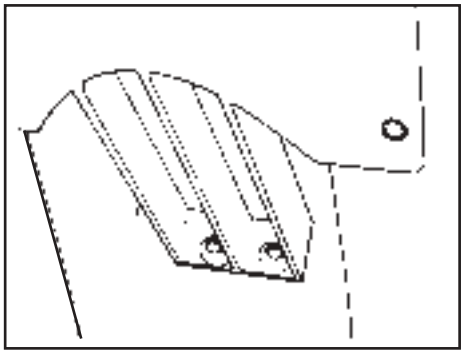
This Jet Boat is included in the Class A inboard boat classification of the U.S. Coast Guard. A boat of this type MUST carry a fire extinguisher of a B-1 classification, with a capacity of two pounds or more when navigating in waters under Coast Guard jurisdiction. In addition, most state and local boating laws also require that the craft carry a USCG-approved fire extinguisher wherever the boat is operated.

A fire extinguisher is not standard equipment with this boat. If you do not have one, contact your local Yamaha Jet Boat dealer or a fire extinguisher dealer to obtain one meeting the proper specifications.



A fire extinguisher holder is located inside the bow storage compartment. Be sure the fire extinguisher is held in place by the strap.

Jet Intakes



Before launching the Jet Boat, carefully check the jet intakes under the boat for weeds, debris, or anything else that might restrict the intake of water. If the intakes are clogged, cavitation could occur, reducing jet thrust, and possibly damaging jet pump parts. In some cases, the engine may overheat because of lack of cooling water, and damage could result. Engine cooling water is fed to the engine by the jet pumps (see pages 2-11).

Refer to **Jet Pump Clean-Out** procedures on page 5-4 before attempting to remove weeds or debris from the jet intake or impeller areas.

⚠WARNING

Rotating parts could cause severe injury or death. Before attempting to remove weeds or debris from the jet intake or impeller areas; shut off the engines, remove ignition key, then remove the engine stop switch lanyard from the stop switch.

Fuel System

Refer to page 4-10, "FUEL SYSTEM INSPECTION," for correct procedure.

Fuel and Engine Oil Levels

1) Turn the main switch key to ON. Wait for the fuel gauge needle to stop moving, then note the fuel level. Add fuel if necessary.

NOTE:
The fuel level is most accurate when the boat is sitting level on the trailer or in the water.

2) Open the engine hatch, then check oil level in the tank. Add as necessary.

Battery

The Jet Boat uses one battery. Check the battery condition and the battery electrolyte level. Make sure connections are tight and that battery is properly secured.

⚠WARNING

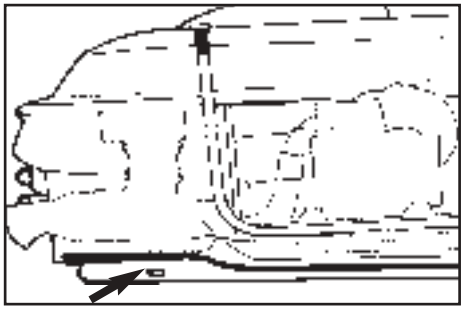
The battery must always be fully charged and in good condition. Loss of battery power may leave you stranded. Never operate the Jet Boat if the battery does not have sufficient power to start the engine or if it shows any other signs of decreased power.

Drainage System

Self-Bailing Deck—

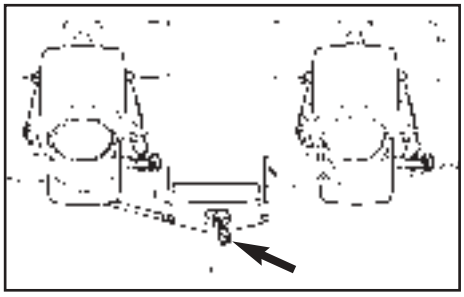
Most water which enters the deck area bails automatically out the stern through the large drain hole in the deck. A one-way check valve in the drain prevents water from traveling back to the deck during mooring or while moving in reverse.

Bilge Pump—



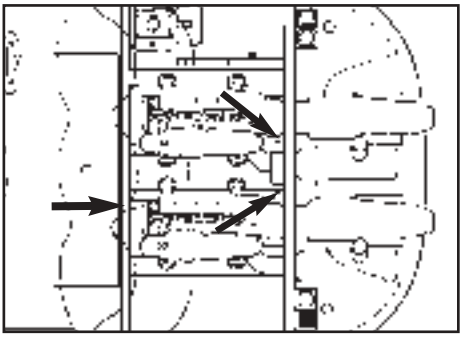
Your Jet Boat is equipped with a drainage system that channels water that enters the boat from the storage compartments to the bilge under the engine compartment. When the bilge pump is turned on (see page 2-12), the pump will sense when there is excessive water in the bilge and will automatically drain most of it. For normal operation, turn the bilge pump switch on during boat use and turn it off when leaving the boat.

Drain Plug—



A drain plug is located at the center of the stern to allow more complete draining when the boat is removed from the water.

Engine Compartment and Fuel Compartment Drain Plugs—



Water will not normally enter the engine compartment or fuel compartment areas during operation. If it does, open the drain plugs and allow water to drain. Also open the engine compartment plugs when flushing the engine area with fresh water after salt water operation.

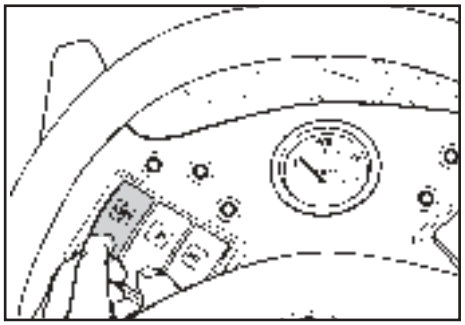
CAUTION:

- **Excessive water in the engine compartment bilge can splash into the carburetor and engine. This could cause engine damage.**
- **Be sure all drain plugs are tightened before operating your Jet Boat.**

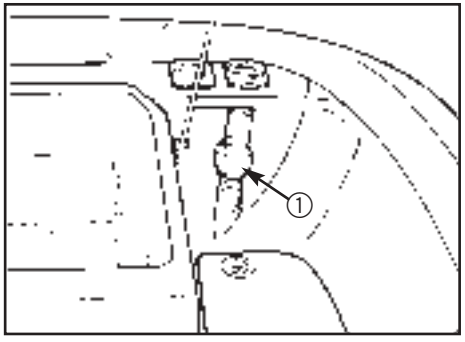
⚠WARNING

Gasoline (petrol) and its vapors are highly flammable and explosive. If a fuel or a fuel/water mix drains from the fuel tank compartment drain or is found in the engine compartment, wipe it up immediately with dry rags. Do not operate the boat until the source of the fuel leak is found and corrected.

Engine Compartment



Operate the bilge blower for at least 4 minutes before starting the engines. Open engine hood and check to be sure no gasoline vapors are present. Check for fuel leaks or loose electrical connection.

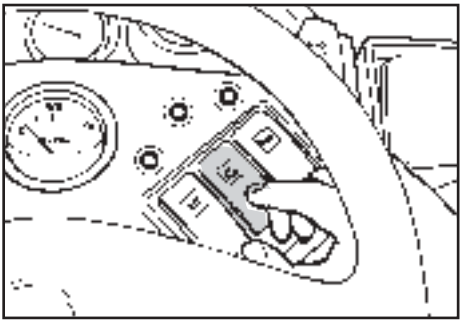


① Blower motor

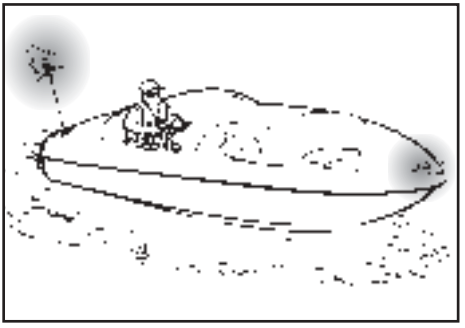
⚠WARNING

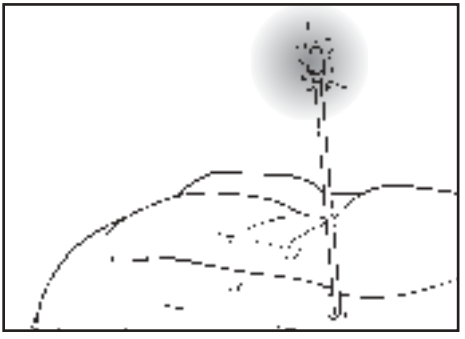
Gasoline vapors can explode. Before starting the engines, operate the blower for at least 4 minutes and check the engine compartment bilge for gasoline vapors. Do not start the engines if you can smell fuel vapors in the engine compartment or if there are any loose electrical connections. Contact your dealer if there is a problem you cannot locate or correct.

Lights



Check for proper operation of the bow and stern lights by pressing the switch on the control panel.

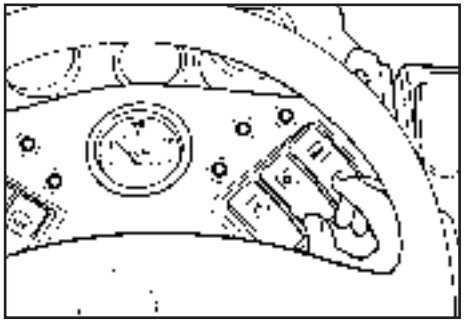




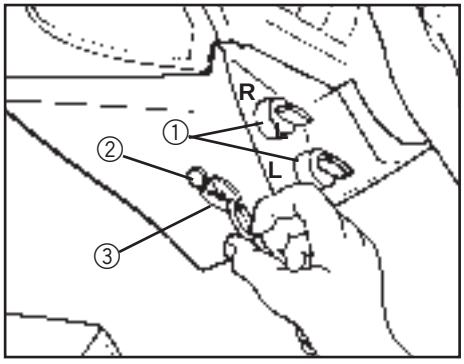
If the stern light is not installed, remove it from the storage area, lift the socket cover, and install it into the socket to check operation.

Horn

Press the horn switch to be sure the horn operates.



Engine Stop Switch



① Starter switch

② Engine stop switch

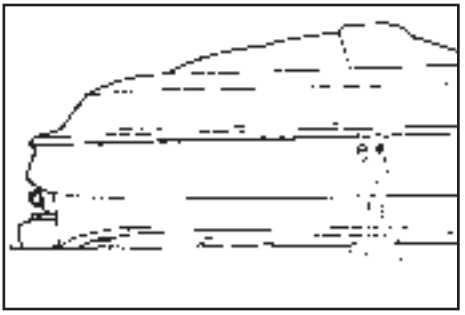
③ Lock-plate

First, place the boat in the water to provide adequate engine cooling. Start the engine, and then remove the engine stop switch lock-plate, and verify that the engine stops.

Refer to pages 3-11 to 3-13, "STARTING THE ENGINE", for information on proper operation of the starter switch.

Cooling-Water Pilot Outlets

Check that water comes out from the pilot outlets while engine is running in the water. Refer to page 2-11 for correct operation of the device.



NOTE:

It may take up to 20 seconds for water to reach the pilot outlets when first launching the boat. The amount and force of the exiting water will vary with engine rpm.

CAUTION:

A continuous flow of water from the pilot hole shows that water is flowing through the engine cooling passages. If water is not flowing out of the pilot hole during operation, do not continue to run the engines. Overheating and serious damage could occur. See Overheat Warning System, page 2-11, for more information.

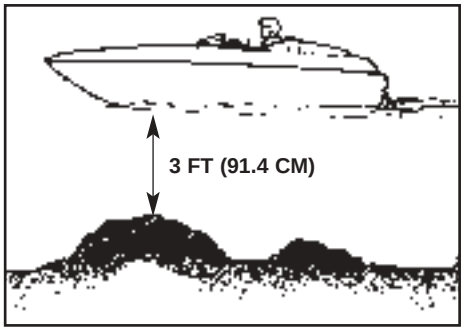
OPERATION

STARTING THE ENGINES

⚠WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING:

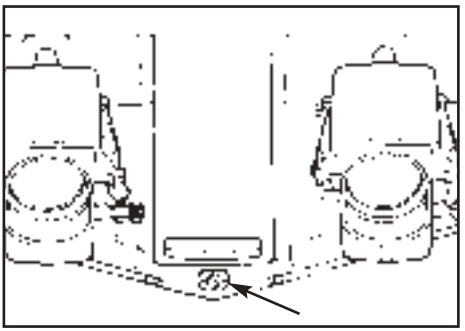
- **Before operating your Jet Boat, become familiar with all controls. Consult your Yamaha dealer about any control or function you do not fully understand.**
- **Attach the engine stop switch lanyard to your personal flotation device before operating. Failure to attach lanyard could result in a runaway boat if operator is ejected.**
- **Check throttle, steering and shift lever for proper operation before starting the engine.**
- **Shift into neutral before starting engines. Put throttle levers in idle position before shifting.**



1) Always make sure the boat is launched and used in waters that are free from weeds and debris, and at least 3 ft (90 cm) deep.

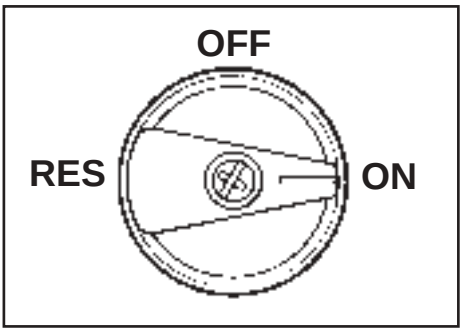
⚠WARNING

Never operate in water that is less than 3 ft (91.4cm) deep. You increase your chance of hitting an underwater obstacle. You could be injured. Pebbles or sand can also be sucked into the jet (water) intake, damaging the impeller.

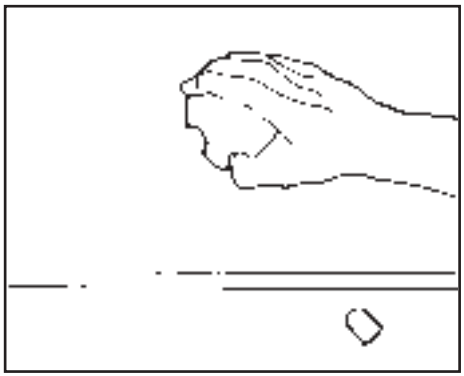


CAUTION:

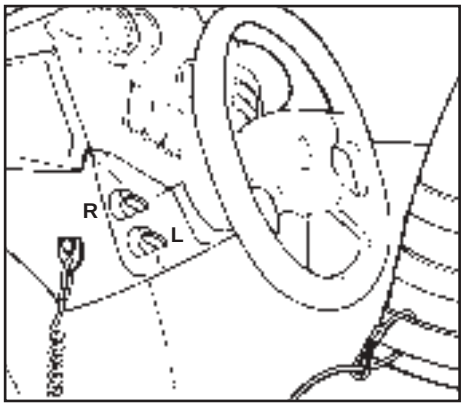
There is a hull drain plug at the bottom of the stern in the center. Be sure it is securely tightened before launching the Jet Boat.



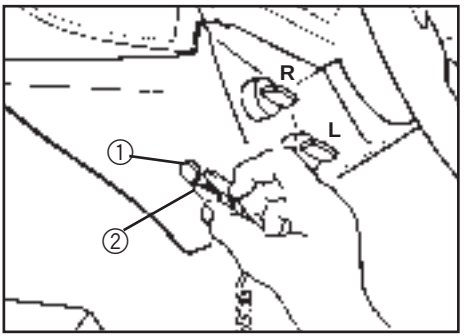
2) Turn the fuel cock knob to the "ON" position.



NOTE:
Before the first start-up, remove the fuel tank filler cap to release any built-up pressure in the tank because of fuel expansion.



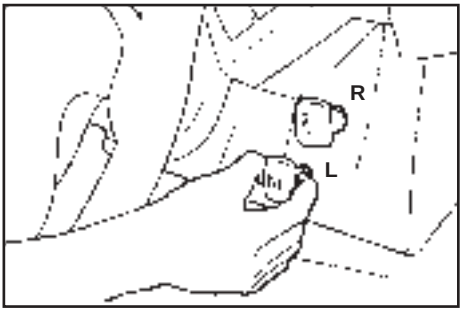
3) Attach the lanyard clip to your PFD. Install the lanyard lock plate on the engine stop switch by pushing the lock plate groove over the nut beneath the knob. Be sure the lanyard is not wrapped around the steering wheel or tangled in the controls.



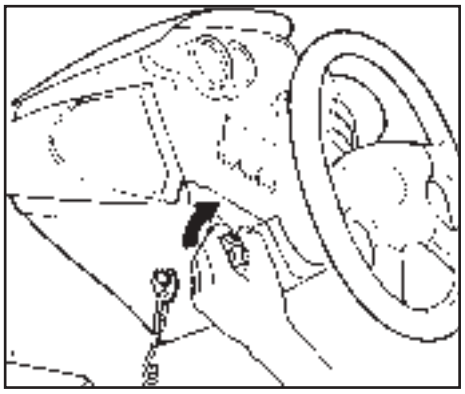
① Engine stop switch
② Lock-plate with lanyard

NOTE:
It is not possible to start the engine with the lock-plate removed from the engine stop switch. However, the starter motor will turn the engine over.

4) Pull the choke knob all the way out.



NOTE:
- It may be necessary to hold the choke knob completely pulled out when starting a very cold engine.
- After the engine has warmed up, push the choke knob in gradually. The choke should not be used when the engine is warm.



5) Put the throttle levers in the idle position. Shift into Neutral. Turn the ignition key of one engine to “Start.” When the engine starts, release the key. Repeat for the other engine. If the engine will not start or doesn’t stay running, move the throttle levers forward slightly and try again.

CAUTION:

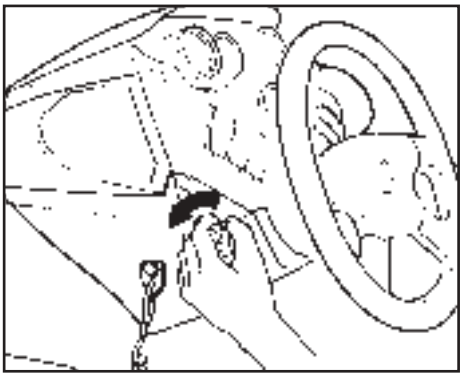
Never turn the ignition key to “Start” while the engine is running. Do not keep the starter motor running for more than five seconds. If the engine does not start after five seconds of cranking, release the starter button. Wait at least 15 seconds before trying to start the engine again. If the starter motor is engaged continuously for more than five seconds, the battery will be quickly discharged, and it will be impossible to start the engine. The starter motor may also be damaged if it is engaged continuously for more than five seconds.

NOTE:

- Be sure the shift lever is put in the Neutral position or the starter motor will not operate.
- On this boat, the engines are connected directly to the drive unit. Starting either engine generates some thrust immediately. Only enough throttle should be applied to keep the engine at a fast enough idle to stay running.

6) After the engines are warm, gradually push the choke knobs in fully, back to their original position.

STOPPING THE ENGINES



To stop the engine, return the throttle levers to the idle position, then turn the main switches to "Off." The engines can also be stopped by pulling the engine stop switch lanyard.

⚠WARNING

Once the engine has stopped, you have NO STEERING CONTROL over the boat. You could collide with another boat, a dock, or other obstacle.

NOTE:

- Remove the ignition keys and the engine stop switch lanyard if the boat will be left unattended.
- Stopping the engines immediately after operating at high rpm is not recommended. Let the engines cool off at idle or low speed for a few minutes first.

BREAK-IN (RUNNING-IN) PROCEDURE

The engine and other components require a break-in (running in) period to allow surfaces of moving parts to wear in evenly. This ensures proper performance and promotes longer engine life.

CAUTION:

- **Failure to follow the break-in procedures may result in reduced engine life, or even engine damage.**
- **During first 5 hours or 2 tanks of operation, use 50:1 pre-mix fuel (in addition to oil in oil tank).**
- **After above period, use straight gasoline (petrol) for normal operation.**

1) Before launching: Fill the fuel tank with 50:1 premix fuel. Fill the oil tank with oil (see page 3-3). Launch the boat and start the engine (see page 3-11).
2) First 5 minutes: Run the engine at the lowest possible idling speed.
3) First tankful of fuel: Gradually increase the throttle position during operation, up to a maximum of one-half throttle. Vary engine speed occasionally.
4) Second tankful of fuel: Fill the tank again with 50:1 premix fuel (in addition to the oil in the oil tank), and proceed with normal operation. Following this tankful of fuel, use straight gasoline in the fuel tank and oil in the oil tank (see page 3-3).

DRIVING YOUR JET BOAT

GETTING TO KNOW YOUR JET BOAT

Operating your Jet Boat requires skills acquired through practice over a period of time. Take the time to learn the basic techniques well before attempting more difficult maneuvers.

Boating with your new Jet Boat can be a very enjoyable activity, providing you with hours of pleasure. But it is essential to familiarize yourself with the operation of the Jet Boat to achieve the skill necessary to enjoy boating safely. Before you begin, be sure you have read this Owner's Manual completely and understand the operation of the controls. Pay particular attention to the safety information in Chapter 1. Read all warning and caution labels on your Jet Boat.

This Jet Boat is designed to carry one operator and up to four passengers, as long as the total weight of people and cargo does not exceed 930 lb (421 kg). Never have more than five people in the boat.

LEARNING TO OPERATE YOUR JET BOAT

Before boating, always perform the Pre-Operation Checks listed on page 3-4. The short time spent checking the machine's condition will reward you with added safety and a more reliable Jet Boat.

Know and follow U.S. Coast Guard, state, and local laws when operating your Jet Boat.

Select a wide area to learn in, where visibility is good and other boat traffic is light. Keep the proper distance from other boats and vehicles. Do not operate where people are swimming.

Always attach the engine stop switch lanyard to your personal flotation device before operating.

You and all other passengers must always wear a U.S. Coast Guard approved personal flotation device when riding in the Jet Boat. You should consider wearing water shoes, eye protection, gloves, and other protective apparel. Water sports increase your risk of injury from contact with your boat, other vessels, docks, rocks, or coral. Waterskiiers must also wear a wetsuit to protect against jet thrust or impact with the water surface, particularly as speeds increase. Normal swimming attire may not adequately protect you.

Grip the wheel firmly and keep both feet on the deck when driving the Jet Boat.

BOATING WITH PASSENGERS

When one or more passengers are on board, the boat may handle differently, so operating it requires a higher degree of skill.

Remember: Your Jet Boat is designed for one operator and up to four passengers only. Never have more than five people in the Jet Boat. Passengers should sit so the weight in the boat is balanced from side to side as much as possible. If the passenger seat in front of the helm is used, be sure the operator's view ahead is not obstructed.

Passengers must sit in one of the seats and hold onto the grips while putting both feet on the deck.

⚠WARNING

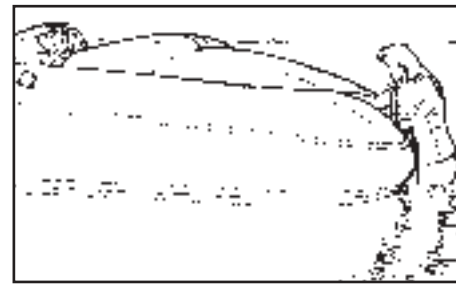
When passengers are on board, make sure they are seated and holding on before you start to accelerate. An unprepared passenger could lose balance and fall.

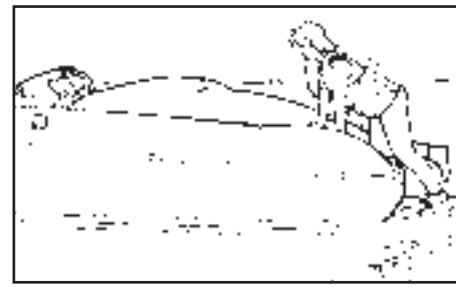
BOARDING FROM THE WATER

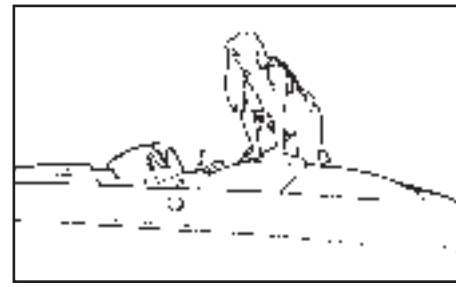
⚠WARNING

Strong streams of water from the jet nozzles can be dangerous, and can result in serious injury when directed at body orifices (rectum and vagina).

- **Do not board from the rear, use swim platform, or swim behind boat if engines are running.**
- **Stay away from the back of the boat when engines are running.**







1) Be sure engines are off, then move to the stern of the boat. Put a foot on the rear boarding step and grab the boarding handles in the swim platform.
2) Climb up onto the swim platform, then climb over the engine hatch and sit in one of the seats provided.

CAUTION:

Do not use control levers as grab handles because damage can occur.

BOARDING FROM A DOCK OR LANDING JETTY

1) Board the boat from the side. One person should board at a time by stepping into the boat. Never jump in. Avoid stepping on slick gelcoat surfaces on the boat's gunwales, especially if wet.
2) Sit in one of the seats provided and put both feet on the deck.

CAUTION:

Do not use control levers as grab handles because damage can occur.

TURNING

⚠WARNING

- **You need engine power to turn. Pulling the throttle levers back to idle or shutting off engines can cause you to hit an obstacle you are attempting to avoid.**
- **Be sure passengers are holding on before making turns. An unprepared passenger could lose balance and fall.**

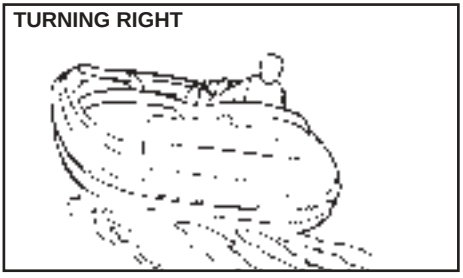
Engine power produces thrust from the jet pumps. Directional control is provided by opening the throttle and turning the wheel.

To make a turn at higher than trolling speed: Turn the wheel in the desired direction and apply enough throttle to make your turn. High thrust turns the boat sharply; low thrust turns less sharply. Pulling back the throttle completely above trolling speed causes the boat to go straight even if you turn the steering wheel. TURNS CANNOT BE MADE WITHOUT APPLYING THROTTLE!

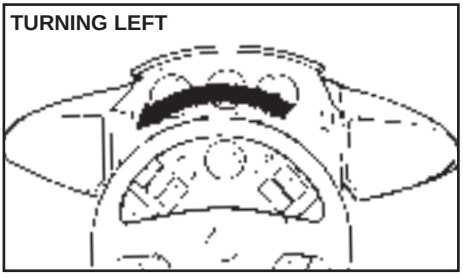
As you make turns, remember that boats steer from the stern. As you make a turn to the right, for example, the stern of the boat swings to the left. This characteristic is particularly important to understand when maneuvering near obstacles such as docks or buoys.

TURNING RIGHT

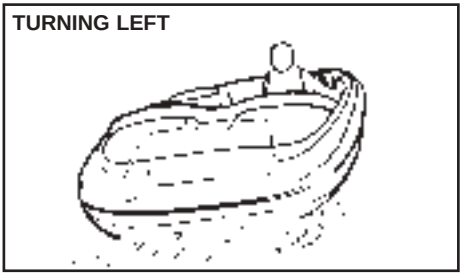
TURNING RIGHT



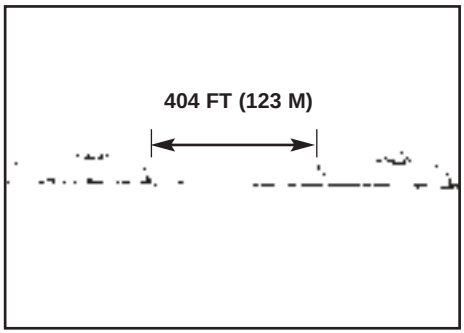
TURNING LEFT



TURNING LEFT



STOPPING



The Jet Boat is not equipped with a separate braking system. It is stopped by water resistance after the throttle levers are moved back to idle. From full speed, the Jet Boat stops in approximately 404 ft (123 m) after the throttle is moved back to idle. The stopping distance varies depending on gross weight, water surface conditions, and wind direction. The stated stopping distance should be used for a reference.

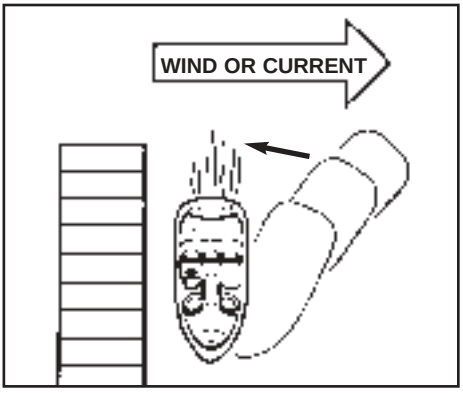
⚠WARNING

You will lose steering control if you completely pull the throttle levers back to idle.

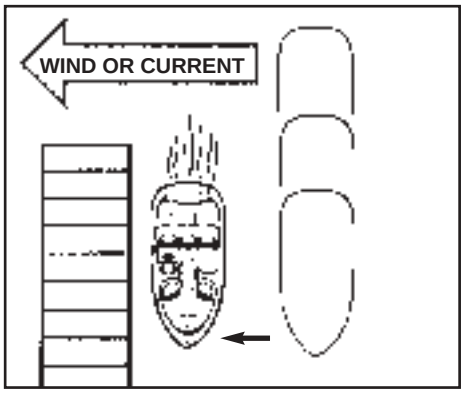
DOCKING

1) Make sure no obstructions, boats or swimmers are close to the Jet Boat. Approach the dock from the port side if possible. Come to a stop before you reach the dock.
2) Notice how wind and water currents are affecting boat movement as you attach your mooring lines and fenders.
3) Approach the dock at idle speed. Use reverse as necessary during slow speed maneuvering to help control speed and direction. Position the boat according to wind and water conditions.

Wind or current pushing boat away from dock:
Slowly approach the dock at about a 45° angle. Secure the bow to the dock, then use engine thrust or a boat hook to gently move the stern to the dock.



Wind or current pushing boat toward dock:
Slowly maneuver to a shallow angle and allow the boat to move toward the dock.



No wind or current:
Approach the dock at a shallow angle. Secure the bow to the dock, then use engine thrust or a boat hook to gently move the stern to the dock.

LEAVING A DOCK

Because boats steer from the stern, the stern first moves in the direction opposite your desired turn. It is especially important to understand this characteristic when leaving a dock. If you simply turn the wheel to steer the bow away from the dock, as you would when driving a car out of a parking space, you will drive the stern of the boat into the dock. Following is a basic maneuvering technique which can be used in most circumstances.

1) With engines idling and the bow still moored to the dock turn the steering wheel toward the dock. This will start to move the stern of the boat away from the dock.
2) When the stern is out a few feet, release the bow mooring then steer in the direction you want the bow to move. Open the throttle slightly and begin to move away from the dock.

BEACHING

1) Make sure no obstructions, boats or swimmers are near the beach.
2) Approach the beach slowly and stop the engines when the water is about 3 ft (90 cm) deep. Remember: turning is impossible with the engine stopped.
3) Get out of the boat and pull the bow up on the beach.
4) When leaving the beach, push the boat out into water that is at least 3 ft (90 cm) deep before starting the engines.

CAUTION:

- **Small pebbles, sand, seaweed, and other debris can be ingested into the jet intake and impair or damage the impeller. Always stop the engines before beaching the boat. Be sure the boat is in water 3 ft (90 cm) deep before starting the engines again.**
- **Do not beach the boat on rocky beaches. The hull gelcoat can be damaged.**

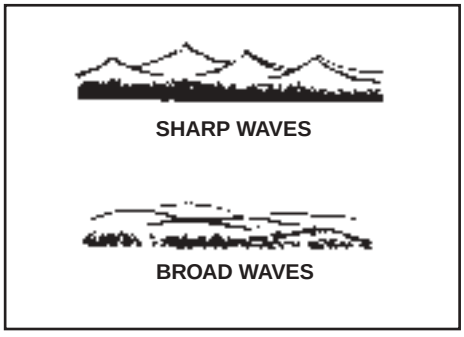
CROSSING WAVES

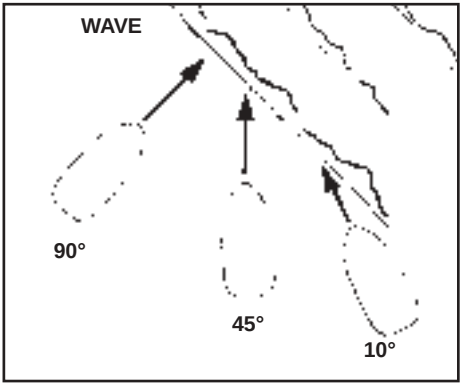
You won't always have flat, smooth water. There will be waves, wakes from other boats, etc.

The best way to cross waves or wakes is with the least "jolt" to you and the boat. Small waves are not as difficult to cross as larger waves. Crossing a sharp wave gives more of a jolt than a broad wave.

To cross a wave, change your speed and the angle that you cross the wave. Usually, a slower speed and "quartering" the wave at an angle will reduce the "jolt."

Two other things you may notice: first is that crossing a group of waves is not as easy or smooth as crossing just one wave; second, when you "quarter" the wave the boat will try to steer away from the wave. When crossing at a 45° angle, you may not notice this, but at a smaller angle of about 10° it can be very strong. Be prepared to steer as necessary.





POST-OPERATION CHECKS

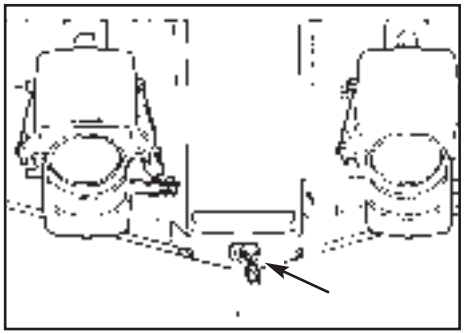
1) After putting the Jet Boat on the trailer, flush cooling system on each engine to prevent the cooling system from clogging up with salt, sand, or dirt. Refer to page 4-1 for the cooling system flushing procedure.

2) Drain residual water from the exhaust system by starting the engine then alternately pushing the throttle lever up to half throttle and back for 10 to 15 seconds.

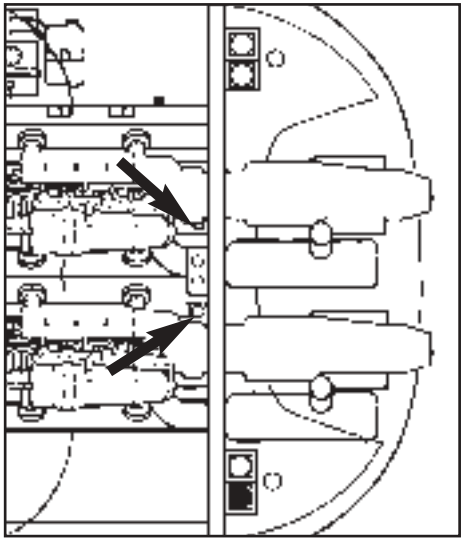
CAUTION:

Never run the engine at full throttle or for more than 15 seconds while the boat is out of the water. The engine may overheat and/or seize.

3) Wash down the hull, helm, and both jet drive units with fresh water.

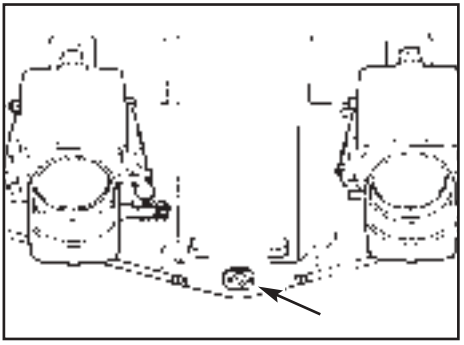


4) Remove hull drain plug and the two engine compartment drain plugs. Rinse the engine compartment with a small amount of fresh water. Be careful not to get water on the carburetor or electrical components. Allow any water in the bilge to drain out. After the water has drained, wipe the engine compartment and bilge with dry rags. Reinstall all drain plugs.



NOTE:

This boat is equipped with an electric bilge pump that automatically removes excess water from the bilge while you are underway. However, some residual water remains that must be drained by removing the drain plug.



CAUTION:

Tighten the hull drain plug securely before launching the Jet Boat. Clean any foreign material, such as dirt or sand, from the threads before installing the drain plug.

5) Spray a rust inhibitor, such as Yamaha Silicone Protectant and Lubricant, on metallic parts to minimize corrosion.

TRAILERING

⚠WARNING

Avoid accident and injury from improper trailering:

- **The trailer must be matched for the Jet Boat's weight and hull.**
- **The towing vehicle must have the capacity of pulling the load. Pulling a load that exceeds the Jet Boat's towing capacity may cause loss of control.**
- **Be sure the boat is secured to the trailer and the trailer is properly hitched to the towing vehicle before towing.**
- **Always place the fuel cock in the "OFF" position when transporting or storing the Jet Boat. Otherwise, fuel could leak out into the engine or engine compartment, which could create a fire or explosion hazard.**

Select a trailer that is manufactured to carry a boat of the size and weight of your Jet Boat. Check the certification label on the left forward side of the trailer. This label is required to show the Gross Vehicle Weight Rating (GVWR), which is the load carrying capacity of the trailer plus the trailer's weight. Be sure that the total weight of your boat, any cargo, and the trailer weight itself does not exceed the GVWR.

HITCH

The trailer hitch ball must match the size of the socket on the trailer hitch coupler. Hitches are divided into classes that specify the gross trailer weight (GTW) and the maximum tongue weight. Always use a hitch rated for the same or higher class. Use a bolted-on or welded-on hitch; clamp-on bumper hitches are not recommended. Be sure the trailer hitch's release handle is latched with the lock pin installed before towing.

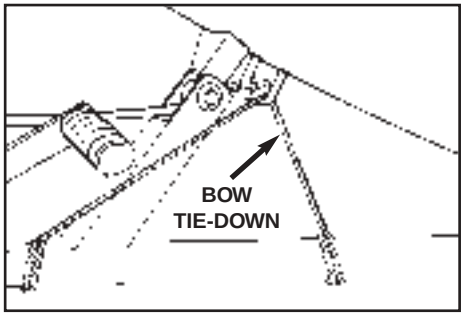
Use safety chains between the towing vehicle and the trailer so the trailer will not detach completely from the towing vehicle if it accidentally comes loose from the hitch ball. Crisscross the chains under the trailer tongue so the tongue will not hit the road surface if it falls loose. Rig the chains as tightly as possible while allowing just enough slack to permit tight turns.

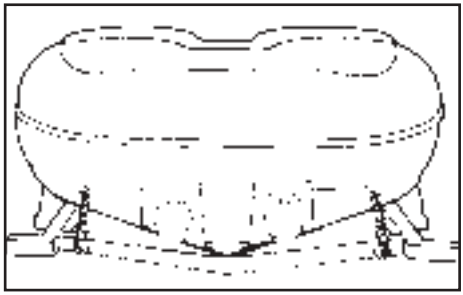
Be sure the tongue weight (vertical weight on the hitch point) is correct. Generally, 5% to 10% of the combined weight of the boat and trailer should be on the tongue. Too much or too little weight can cause difficult steering or trailer swaying.

TRAILERING CHECKLIST

- Check your state laws to be sure your trailer meets all regulations, such as proper licensing, brake, axle load, and safety chain requirements.
- Check trailer for any loose fasteners or damaged parts.
- Check tires for proper inflation.

- Check wheel bearings and wheel lug nuts before each trip.
- Check tail, brake, and turn signal lights for proper operation.
- Secure the bow of the boat to the trailer with the winch line and also with a separate bow tie-down to the winch stand and frame crossmember. Secure the stern cleats to the trailer with tie-downs.

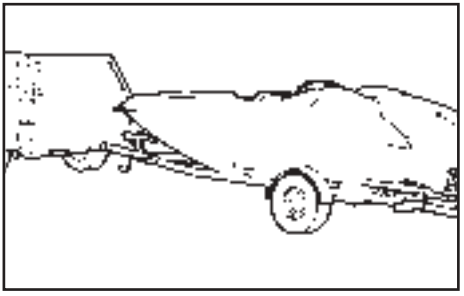




- Take down and store the canopy top, if used. The top is not designed to stay on the Jet Boat at highway speeds.
- Carry a spare tire for the trailer, along with sufficient tools to change the tire.
- While traveling, check the wheel hubs on the trailer whenever you park. If the hub feels abnormally hot, have the bearing inspected before continuing your trip. On longer trips, it is a good idea to carry a set of spare wheel bearings, seals, and races.
- When making a turn, do not cut corners. The trailer has a smaller turning circle so it turns more sharply around the corner than the towing vehicle.
- Before backing your trailer into the water, disconnect the light plug from the towing vehicle. This will reduce the likelihood of the lights blowing out when submerged.

BACKING YOUR TRAILER

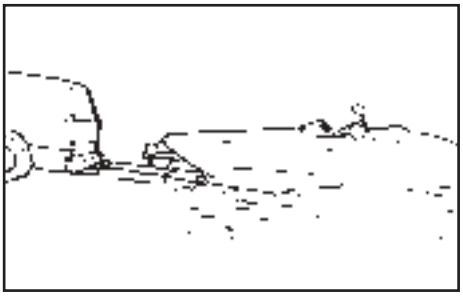
It takes practice to back a trailer successfully. If you are not familiar backing up with a trailer, practice first in an open area away from obstacles.



Keep the following points in mind:

- Back slowly. Make steering adjustments in small steps.
- Turn the towing vehicle's wheels opposite the direction you want the trailer to go.
- After the trailer begins moving, turn the towing vehicle to follow it.
- Have a second person stand by to help direct you with hand signals.

LAUNCHING



As a courtesy to other boaters, prepare your Jet Boat for launching before using the ramp.

Each launch may have particular differences, such as ramp angle, prevailing wind, waves, and water currents. If possible, watch a couple of boaters launch their boats first to notice any problems. While every boater develops a preferred launch procedure, here is a recommended general procedure:

1. Perform the Pre-Operation Checks shown on page 3-4 that can be performed on land, including operating the blower for at least 4 minutes.
2. Remove all trailering tie-down lines from the boat and attach your docking lines and fenders, if used.
3. Disconnect the trailer lights from the towing vehicle.
4. Back the trailer down the ramp as close to 90° to the shoreline as you can. If possible, have a second person stand aside as an observer. Stop when the wheels are at least halfway submerged. Set the parking brake.
5. Remove the bow line from the bow eye.
6. Back the trailer farther into the water until just the tops of the fenders show, then reset the parking brake. Board the boat and start it. If possible, remain on the trailer until the engines are warm and are responding to throttle.
7. Back the boat out into the water, watching carefully for other boats or obstacles.

LOADING

1. Disconnect the trailer lights from the towing vehicle.
2. Back the trailer down the ramp as close to 90° to the shoreline as you can. If possible, have a second person act as an observer while standing to the side of the boat. Stop when the tops of the trailer's fenders are about 3 inches above the waterline.
3. With the boat moving at the slowest idle speed. Use throttle only if necessary for steering ability. Guide the boat onto the support rails.

⚠WARNING

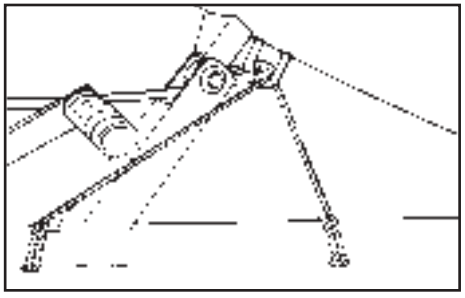
Using too much throttle can cause the boat to jump over the front of the trailer which can result in injury to the boat operator and bystanders. Use only enough throttle to maneuver the boat into the correct position.

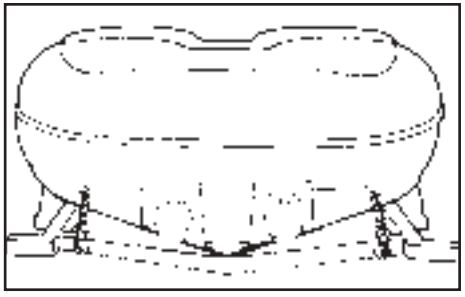
4. Make sure the boat is centered on the support rails and is headed straight for the bow stop (bumper board). Ease the boat forward until the bow rests against the bow stop.
5. Attach and tighten the winch line.

CAUTION:

- **The winch line is not designed to pull the boat onto the trailer.**
- **The winch line should not be the only line securing the bow during trailering. Use a separate bow tie-down line along with the winch to secure the boat to the trailer.**

6. Pull the trailer up the ramp out of the way of other boaters. Attach the bow and stern tie-downs. Reconnect the trailer lights.





7. Follow the Post-Operation Checks on page 3-20.

LIFTING

CAUTION:

Do not attach lifting cables to the bow eye, cleats, waterski tow eye, or grab handles. Serious damage to the boat can occur. Use only a sling designed specifically for lifting boats.

If you need to remove the Jet Boat from the water without a trailer, use these guidelines:

- Use a sling-type lifting mechanism designed for lifting boats. The sling should be covered with a protective material to prevent damage to the hull gelcoat.
- Use spreader bars to avoid side stress to the hull that may cause cracks in the gelcoat and fiberglass.
- Attach guidelines to the bow eye and stern tie-down cleats to control movement of the boat during lifting.
- Remove all people and all cargo from the boat. Drain any excess water from the bilge using the bilge pump.
- Be sure all people are standing clear, then lift boat slowly and just far enough to verify that the boat is securely held and properly balanced. If necessary, lower the boat again and adjust the slings.
- When ready, lift the boat slowly and carefully.

Chapter 4
MAINTENANCE AND CARE

STORAGE 4-1
- Cooling System Flushing 4-1
- Lubrication 4-2
- Battery 4-3
- Cleaning 4-3

ADJUSTMENT AND MAINTENANCE 4-4
- Tool Kit 4-4
- Periodic Inspection Chart 4-5
- Spark Plug Cleaning and Adjustment 4-6
- Grease Points 4-7
- Fuel System Inspection 4-10
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- Fuel Tank 4-11
- Oil Injection System Inspection 4-11
- Bleeding the Oil Injection Pump 4-12
- Carburetor Adjustment 4-12
- Steering Cable Inspection 4-13
- Throttle Cable Inspection 4-13
- Choke Cable Adjustment 4-14
- Reverse Gate Mechanism Inspection 4-14
- Fuse Replacement 4-14
- Battery 4-15

SPECIFICATIONS 4-17

STORAGE

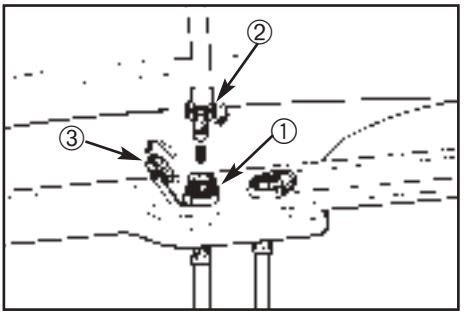
Storing your Jet Boat for prolonged periods of time, such as winter storage, requires preventative maintenance to ensure against deterioration. It is advisable to have the Jet Boat serviced by an authorized Yamaha Jet Boat dealer before storage. However, the following procedures can be performed by the owner with a minimum of tools.

FUEL SYSTEM

Top off the fuel tank with fresh fuel, adding one ounce of Yamaha Fuel Conditioner and Stabilizer (Part No. LUB-FUELC-12-00) or an equivalent to each gallon of fuel. A full fuel tank is less likely to allow condensation to collect in the tank, reducing the chance of contaminated fuel. Running the engines with treated fuel during cooling system flushing will also help protect carburetors and fuel lines.

NOTE:
Use of Yamaha Fuel Conditioner and Stabilizer eliminates the need to drain the fuel system. Consult your Yamaha dealer or other qualified mechanic if the fuel system is to be drained instead.

COOLING SYSTEM FLUSHING



① Flush Hose Connector
② Garden Hose Adapter
③ Cap

Cooling system flushing is essential to prevent the cooling system from clogging up with salt, sand, or dirt.

1. Open the cap for the engine you are going to flush. Press the flush kit garden hose adapter into the flush hose connector and turn until they are securely connected.
2. Start the engine, then immediately turn on the water supply fully.

CAUTION:

- **Never turn on the water before starting the engine. The water could flow back through the muffler into the crankcase causing severe engine damage.**
- **Be sure to turn on the water immediately after starting the engine to prevent engine overheating.**

3. Run the engine at a fast idle for 10~15 minutes.

4. Turn off the water supply, then drain residual water from the exhaust system by alternately pushing the throttle lever up to half throttle and back for 10 to 15 seconds. Shut off engine.

CAUTION:

Never have the water on when the engine is not running. The water could flow back through the muffler into the crankcase causing severe engine damage. Do not run the engine for more than 15 seconds after the water supply has been turned off to avoid engine overheating.

5. After stopping the engine, remove the garden hose adapter.
6. Replace the cap securely.
7. Repeat the flushing procedure for the other engine.

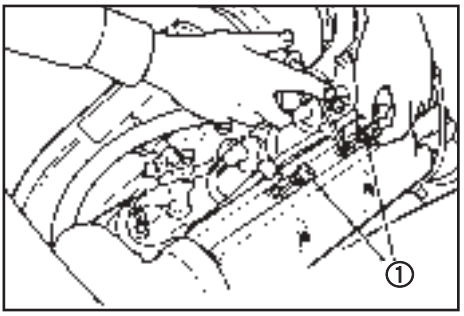
LUBRICATION

⚠WARNING

To reduce the risk of fire or explosion: Never pour or spray gasoline, or any other substance except engine fogging oil through the hole in the carburetor silencer cover.

CAUTION:

- **Do not attempt to run the engine at full throttle or for more than 15 seconds while the boat is out of the water. The engine may overheat and/or seize.**
- **Be sure to replace the cap securely after fogging the engine. Otherwise water could enter the engine and cause damage.**



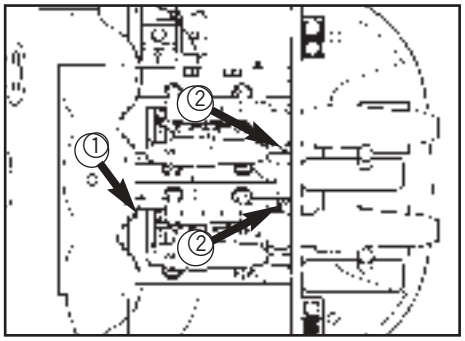
1. Open the cap ① on the carburetor silencer cover of each engine.
2. With the Jet Boat in a well-ventilated area, start each engine. With the engine running at a fast idle, quickly spray as much Yamaha Stor-Rite Fogging Oil (Part No. LUB-STRRT-12-00) or an equivalent, as possible alternately into each carburetor through the holes in the silencer cover. Keep spraying until the engine stalls (or a maximum of 15 seconds). Reinstall the cap securely.
3. Remove the spark plugs and pour approximately one tablespoon of oil into each cylinder.
4. Grease the spark plug threads and reinstall the spark plugs.
5. Lubricate all cables such as the throttle choke, and steering cables.
6. Grease the areas of the Jet Boat specified in "Grease Points" in the Adjustment And Maintenance section.

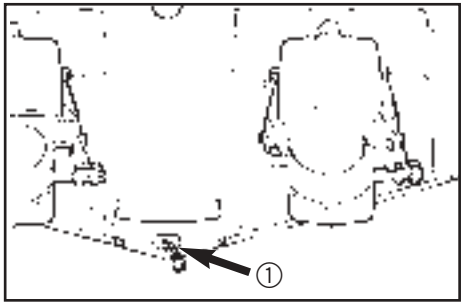
BATTERY

1. When the Jet Boat is not to be used for a month or more, remove the batteries and store them in a cool, dark place. Clean each battery's casing and terminals using a mixture of baking soda and water (one tbs. of baking soda to one cup of water). Apply dielectric grease or petroleum jelly to the battery terminals and to all exposed connectors.
2. If the batteries will be stored for a longer period, check the specific gravity of the fluid at least once a month and recharge the batteries if they get too low.

Specific gravity: 1.28 at 20°C (68°F)

CLEANING





1. Remove the fuel tank compartment drain ① and allow any water to drain into the engine compartment. Reinstall the drain plug.

⚠WARNING

Gasoline (petrol) and its vapors are highly flammable and explosive. If fuel or a fuel/water mix drains from the fuel tank compartment drain, wipe it up immediately with dry rags. Do not operate the boat until the source of the fuel leak is found and corrected.

2. Remove the drain plugs in the stern ② and engine compartment ③. Wash down the hull, boat interior, and drive units with fresh water.
3. Rinse the engine and bilge areas with fresh water. Drain off all water and wipe up remaining moisture with clean, dry rags.
4. Spray the exterior of the engines with Yamaha Silicone Protectant and Lubricant (LUB-SLCNE-13-00).
5. Wax the hull with a non-abrasive wax such as Yamaha Ultra Gloss Cleaner Wax (ACC-UTLRA-CL-WX) or other wax designed for marine gelcoat.

⚠WARNING

Slippery surfaces can cause falls and injury. Be careful not to apply too much wax on deck and gunnel stepping surfaces. This will make them slippery.

6. Wipe all vinyl and rubber components, such as the seats and engine compartment seals, with a vinyl protectant such as Yamaha Protectant (ACC-11001-19-00).

ADJUSTMENT AND MAINTENANCE

Periodic inspection, adjustment, and lubrication will keep your Jet Boat in the safest and most efficient condition possible. Safety is an obligation of the Jet Boat owner. The most important points of boat inspection, adjustment and lubrication are explained on the following pages.

⚠WARNING

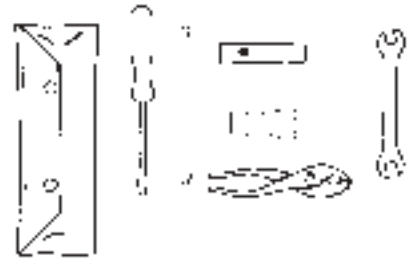
- **Be sure to turn off the engines when you perform maintenance unless otherwise specified. Otherwise, accident or injury could result from unexpected operation, moving parts, or electric shock.**
- **If the owner is not familiar with machine servicing, this work should be done by a Yamaha dealer or other qualified mechanic. Improperly serviced components could fail or stop operating correctly, which could result in an accident.**

TOOL KIT

It is advisable always to carry the Owner's Manual and tool kit with you whenever you use the Jet Boat. To protect these articles from water, it is a good idea to put them in a vinyl bag.

The service information included in this manual is intended to provide you, the owner, with the necessary information for completing your own preventive maintenance and minor repairs. The tools provided in the owner's tool kit are sufficient for this purpose, except that a torque wrench is also necessary for tightening nuts and bolts properly.

TOOL KIT



⚠WARNING

Do not attempt to modify this Jet Boat! Modifications to your boat may reduce safety and reliability, and may make the boat illegal for use.

PERIODIC INSPECTION CHART

Frequency of maintenance operations may be adjusted according to the operating conditions, but the following table gives general guidelines.

● Indicates the checkups which you may do yourself.

■ Indicates work to be done by your Yamaha dealer

Maintenance interval		Initial			Thereafter Every		Page
		10 hours	50 hours	100 hours	100 hours	200 hours	
			3 months	6 months	6 months	12 months	
Spark plug	Inspection/Cleaning/ Adjustment	●	●	●	●		4-6
Grease points	Greasing			●	●		4-7
Bearing housing	Greasing	■ *1		● *2	● *2		4-8
Starter motor idle gear	Greasing	■ *3		● *4	● *4		4-9
Fuel system	Inspection			■	■		4-10
Fuel filter	Checking/Replacement	■				■	4-11
Fuel tank	Cleaning					■	4-11
Oil injection system	Inspection/Cleaning	■				■	4-11
Carburetor adjustment	Inspection/Adjustment	■		■	■		4-12
Trolling speed (idle)	Adjustment			●	●		4-12
Carburetor throttle shaft	Inspection			■	■		
Cooling-water passages	Cleaning/Flushing	● (after every ride)					4-1
Bilge strainer	Cleaning		●	●	●		
Impeller	Inspection		■	■	■		
Steering cable	Inspection					●	4-13
Throttle cable and choke cable	Inspection/Adjustment			●	●		4-13
Reverse gate mechanism	Inspection			●	●		4-14
Drain plugs	Inspection/Replacement					●	
Battery	Inspection	● (inspect fluid level before every launch)					4-15
Rubber coupling	Inspection					■	
Bolts and nuts	Retightening	■		■	■		

*1 Grease capacity: 33.0 ~ 35.0 cm^3 (1.11 ~ 1.18 oz.)
*2 Grease capacity: 6.0 ~ 8.0 cm^3 (0.20 ~ 0.27 oz.)
*3 Grease capacity: 8.0 cm^3 (0.27 oz.)
*4 Grease capacity : 2.0 cm^3 (0.07 oz.)

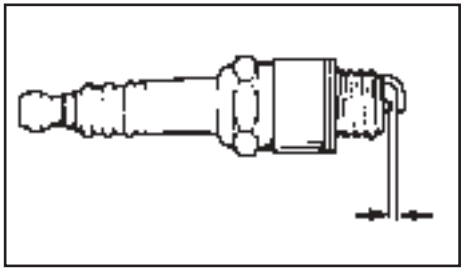
SPARK PLUG CLEANING AND ADJUSTMENT

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate something about the condition of the engine. For example, if the center electrode porcelain is very white, this could indicate an intake air leak or carburetion problem in that cylinder.

Do not attempt to diagnose any problems yourself. Instead, take the Jet Boat to a Yamaha Jet Boat dealer. You should periodically remove and inspect the spark plug because heat and deposits will cause the spark plug to slowly break down and erode. If electrode erosion becomes excessive, or if carbon and other deposits are excessive, you should replace the spark plug with another of the correct type .

Standard spark plug:
BR-8HS

Before installing the spark plug, measure the electrode gap with a wire thickness gauge; adjust the gap to specification if necessary.



Spark plug gap: 0.6~0.7 mm
(0.024~0.028 in)

When fitting the plug, always clean the gasket surface and use a new gasket. Wipe off any dirt from the threads and screw in the spark plug to the correct torque.

Spark plug torque:
25 Nm (2.5 m-kg, 18 ft-lb)

NOTE:

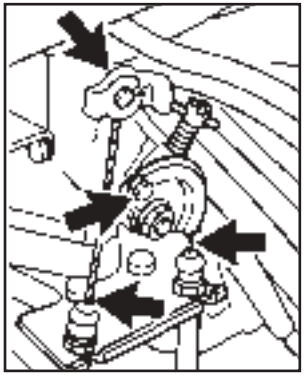
Before installing the spark plug cap, be sure to wipe off any water on the spark plug or inside the cap. Push the spark plug cap down until it clicks.

NOTE:

If a torque-wrench is not available when you are fitting a spark plug, a good estimate of the correct torque (with a new gasket) is 1/4 to 1/2 turn past finger-tight. Have the spark plug adjusted to the correct torque as soon as possible with a torque wrench.

⚠WARNING

When removing or installing a spark plug, be careful not to damage the insulator. A damaged insulator could allow external sparks, which could lead to explosion or fire.

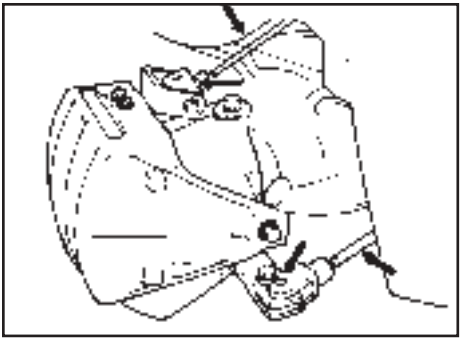


GREASE POINTS

To keep moving parts sliding or rotating smoothly, coat them with water resistant grease such as Yamaha Marine Grease (ACC-GREAS-14-CT), YAMAHA grease A, or an equivalent.

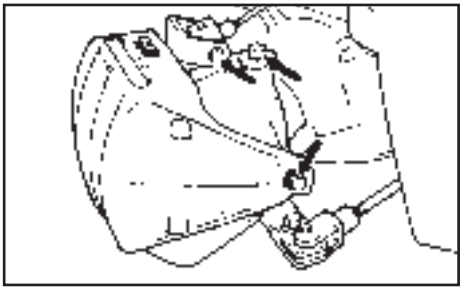
Throttle cable and choke cable

Grease the throttle-cable and choke-cable inner wires at the carburetors.



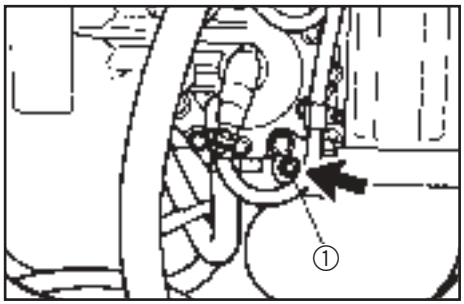
Steering cable ball joints and inner wire

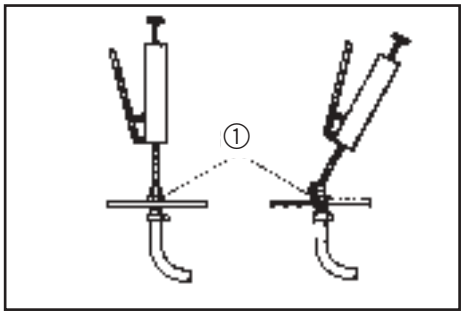
Grease the steering cable and shift cables ball joints at the steering nozzles. Extend the steering cable and shift cable inner wires and apply a thin coat of grease to them.



Pivot points

Grease all pivot points of the steering and shift mechanism at the pump end.





Bearing housing

① Bearing housing grease nipple

Grease the bearing housing through the grease nipple.

Recommended water resistant grease: YAMAHA Marine Grease (ACC-GREAS-14-CT), or YAMAHA Grease A

The first service should be done after 10 hours or 1 month by your YAMAHA dealer.

Fill the bearing housing with water resistant grease through the grease nipple.

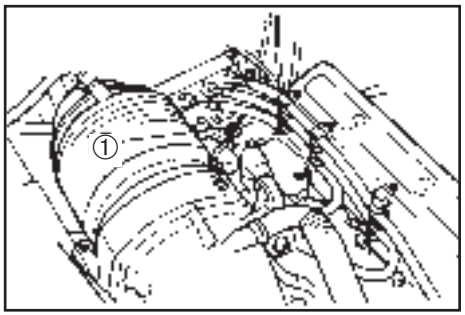
Grease capacity: 33.0~35.0 cc (1.11~1.18 oz)

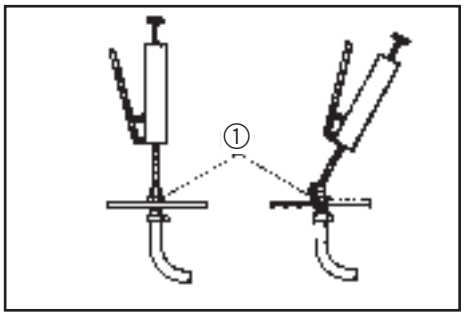
After first service: Every 100 hours or 6 months (you may do this yourself)

Grease capacity: 6.0~8.0 cc (0.20~0.27 oz)

CAUTION:

Fill the grease slowly and carefully, because it can damage the hose and the joints.





Starter motor idle gear

① Starter motor idle gear grease nipple

Grease the starter motor idle gear with water-resistant grease through the grease nipple.

Recommended water resistant grease: YAMAHA Marine Grease (ACC-GREAS-14-CT), or YAMAHA Grease A

The first service should be done after 10 hours or 1 month by your YAMAHA dealer.

Fill the starter motor idle gear through the grease nipple.

Grease capacity: 8.0 cc (0.27 oz)

After first service: Every 100 hours or 6 months (you may do this yourself).

Grease capacity: 2.0 cc (0.12 oz)

CAUTION:

Fill the grease slowly and carefully, because it can damage the hose and the joints.

FUEL SYSTEM INSPECTION

⚠WARNING

Gasoline (Petrol) and its vapors are highly flammable and explosive.

Failure to check for and repair fuel leakage may result in fire or explosion.

Check the fuel system for leaks, cracks, or malfunctions. If any problem is found, do the necessary repair or replacement as required. If repair is necessary, consult your nearest Yamaha Jet Boat dealer.

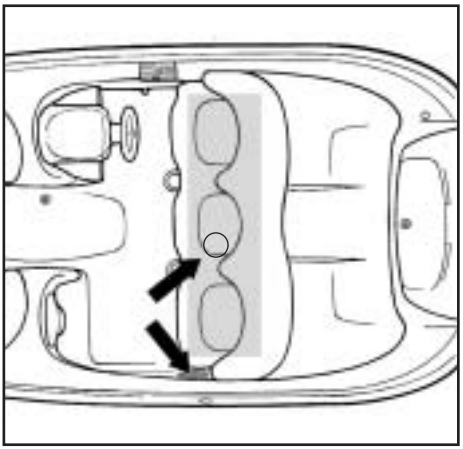
⚠WARNING

Always properly dispose of gasoline (petrol) soaked rags. They can spontaneously ignite.

Checking points:

1. Carburetor leakage.
2. Fuel pump malfunction or leakage.
3. Fuel tank leakage.
4. Fuel hose joint leakage.
5. Fuel hose cracks or other damage.
6. Fuel filter leakage.
7. Fuel cock leakage.
8. Air vent check valve leakage.
9. Fuel filler clamps and hoses.

The United States Coast Guard requires that all inboard boats like your Jet Boat have visual access to fuel filler clamps and hoses. The Jet Boat has two access panels for this purpose.



One access panel is located on the upper deck wall on the port side, visible when the engine hatch is opened. The second access panel is located under the port side passenger seat.

To access the under-seat inspection panel, lift out the center portion of each seat cushion, remove the seat bench, then unscrew the fuel tank cover.

FUEL FILTER

The fuel filter is a one-piece, disposable type. The filter should be replaced once a year or after every 200 hours of operation, or if water is found in the filter. Take the Jet Boat to your Yamaha dealer if fuel filter replacement is required.

⚠WARNING

Do not try to change the fuel filter yourself. An incorrectly installed filter can leak gasoline (petrol), which could lead to fire or explosion. Take the Jet Boat to your Yamaha dealer for fuel filter replacement.

FUEL TANK

If the fuel tank needs to be cleaned or when any water is found in the fuel system, take the Jet Boat to your Yamaha dealer for service.

OIL INJECTION SYSTEM INSPECTION

Check the oil injection system for leaks, cracks, or malfunctions. If any problem is found, do the necessary repair or replacement as required. If repair is necessary, consult your nearest Yamaha dealer.

Check points

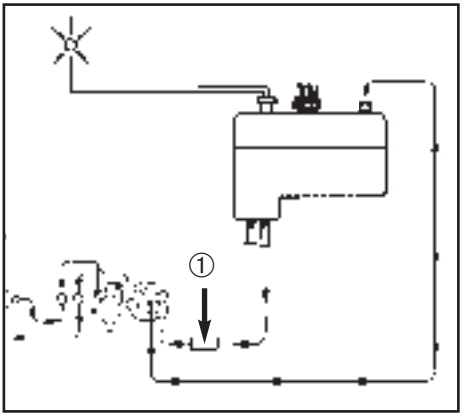
1. Check the oil tank for damage or cracks.
2. Check for water or dirt in the oil tank.
3. Check the oil hose and joint.
4. Check the oil filter.

Oil tank

Check for oil tank damage or cracks. Check the oil hose and joint. When the oil tank needs to be cleaned, or when any water or dirt is found in the oil tank, take the Jet Boat to your Yamaha dealer for service.

Oil filter replacement

If the in-line oil filter becomes contaminated, see your Yamaha dealer for service.

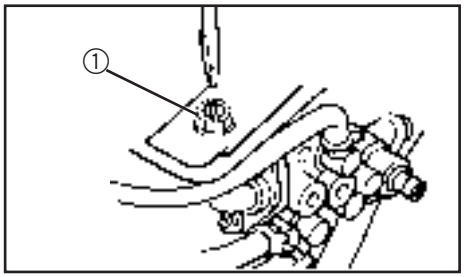


① Oil filter

CAUTION:

Air enters the oil delivery line when the oil filter is removed, so the oil system must be bled properly after the filter is replaced. Air in the system will prevent oil from flowing properly to the engine, and severe engine damage will result. Your Yamaha dealer has the professional knowledge and experience to bleed the oil pump properly.

BLEEDING THE OIL INJECTION PUMP



① Air bleeding screw

To bleed the oil injection pump, loosen the air bleeding screw on the bleed hose. Oil will flow into the oil injection pump. Hold a rag under the screw hole to catch oil as it spills out. Keep letting oil run out until there are no bubbles in the oil. Tighten the screw firmly and wipe up any spilled oil completely. Properly dispose of oil soaked rags.

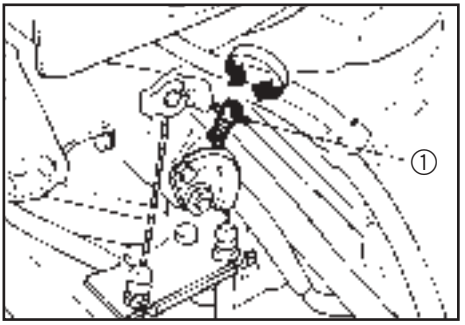
CARBURETOR ADJUSTMENT

The carburetors are vital parts of the engine and require very sophisticated adjustment. Most adjusting should be left to a Yamaha Jet Boat dealer who has the professional knowledge and experience to do so. However, the following point may be serviced by the owner as part of his usual maintenance routine.

CAUTION:

The carburetor was set at the Yamaha factory after many tests. If the settings are disturbed without having technical knowledge, poor engine performance and damage may result.

Trolling Speed (Idle)



① Throttle stop screw

NOTE:
A diagnostic tachometer is useful for this procedure.

Place the Jet Boat afloat. Start the engine and warm it up for one or two minutes.

Using a diagnostic tachometer, adjust one engine's speed to specification. Turn the throttle stop screw clockwise to increase engine speed or counterclockwise to decrease engine speed. Repeat the procedure on the other engine.

Trolling speed: 1,200~1,300 r.p.m.

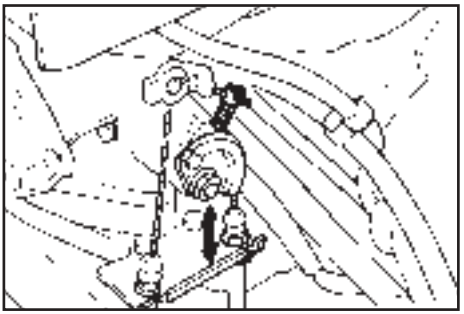
STEERING CABLE INSPECTION

Be sure to check:

1. Check for smooth operation of the wheel and steering nozzles.
2. Check for proper steering adjustment. The nozzles should both point straight back when the steering wheel is centered.

If steering is stiff or misadjusted, ask your Yamaha dealer to service it.

THROTTLE CABLE INSPECTION

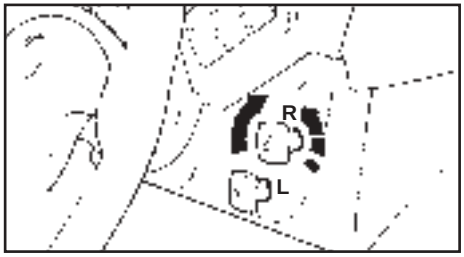


Push and pull the throttle levers through their full range with the shift lever in Neutral. Repeat with the shift lever in Forward, and again in Reverse. Both throttle levers should move smoothly from idle to full throttle and back. If not, ask your Yamaha Jet Boat dealer for service.

⚠WARNING

Improper throttle operation could result in an accident. Check for proper throttle operation before starting the engines.

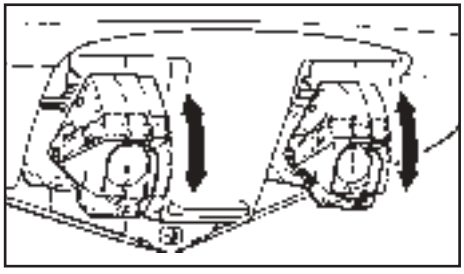
CHOKE CABLE ADJUSTMENT



Pull the choke knob out until it stops. Release the knob. The knob should not move. If it moves back on its own, tighten the friction adjustment slightly. If the knob is difficult to move, loosen the friction adjustment slightly.

REVERSE GATE MECHANISM INSPECTION

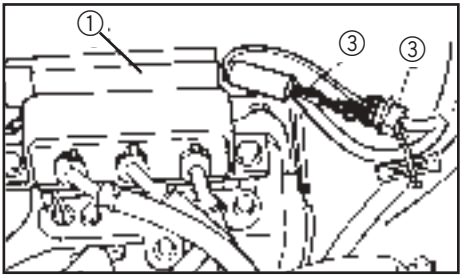
1. Remove the engine stop switch lanyard and ignition keys.
2. Put the throttle levers in the idle position (otherwise the shift lever will not move).
3. Push the shift lever to Forward from the Neutral position while a second person observes shift gate movement from outside the boat. Both shift gates should lift completely to the stops.



4. Pull the shift lever back from Forward through Neutral to Reverse. The observer should check for proper movement of the shift gates. Both gates should drop down over the nozzles to the stops.

If reverse gates do not operate smoothly or correctly, ask your authorized Yamaha Jet Boat dealer for service.

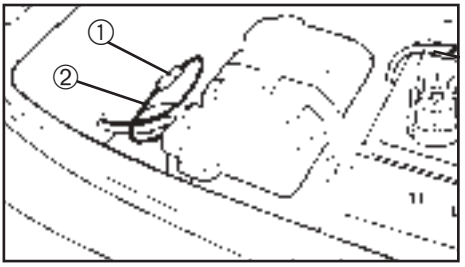
FUSE REPLACEMENT



The fuse is in the ignition coil holder. To replace the fuse, pull out the grommet connected to two red leads, and bring it out with the fuse box. Open the fuse box and replace the fuse.

① Ignition coil holder
② Grommet
③ Fuse (10A)

Accessory Fuse



① Fuse (20A)
② Accessory lead

The fuse is on the accessory battery lead wire (red with black stripe). To replace the fuse, open the fuse box and replace the fuse.

⚠WARNING

Do not use fuses of higher amperage that those recommended. Substitution of a fuse of improper rating can cause extensive electrical system damage and possible fire.

BATTERY

Check the level of the battery fluid and see if the terminals are tight. Add distilled water if the fluid level is low.

CAUTION:

- **Be careful not to place the battery on its side.**
- **Remove the battery from the boat before adding battery fluid or recharging.**

⚠WARNING

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing.

Antidote:

EXTERNAL-Flush with water.

INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately.

EYES: Flush with water for 15 minutes and get prompt medical attention.

Battery produce explosive gases. Keep sparks, flame, cigarettes, etc., away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

Replenishing the battery fluid

A poorly maintained battery will deteriorate quickly. The battery fluid should be checked before every outing.

Fill to the manufacturer's recommended level when necessary. Top up only with distilled water (or pure de-ionized water suitable to use in batteries).

CAUTION:

Normal tap water contains minerals which are harmful to a battery; therefore, refill only with distilled water.

Recharging

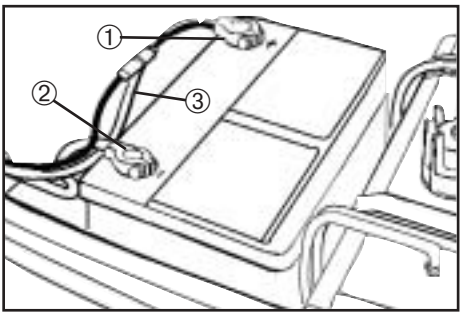
⚠WARNING

- **When charging the battery, keep it well away from sparks and open flames, as it gives off explosive gases.**
- **When using a battery charger, connect the battery to the charger before you turn on the charger. This will prevent sparking at the terminals that could ignite battery gases.**
- **If jump-starting the engine is necessary in an emergency, follow the instructions on page 5-3. Improper jump-starting could cause sparking and explosion.**

1. Remove the caps from the cells. Add distilled water if necessary to top up the electrolyte to the proper level.
2. Follow the battery manufacturer's instructions for charging.

Connecting The Battery Terminals

Always make sure the connections are correct when you install the battery in the Jet Boat. Make sure that the breather pipe is properly connected and that it is not damaged or obstructed.



① Positive (+) Red lead
② Negative (–) Black lead
③ Accessory Red lead

CAUTION:

BATTERY REMOVAL: Disconnect battery leads and the breather pipe before removing the battery. Disconnect the negative (–) lead first.

BATTERY INSTALLATION: Connect the red (+) lead and accessory red (+) lead to the positive (+) terminal of the battery. Connect the black (-) lead and the black (-) accessory lead to the negative (-) terminal of the battery.

SPECIFICATIONS

ITEM \ MODEL	UNIT	EXT1100 JET BOAT
VEHICLE CAPACITY		
Maximum people on board	Number of people	5
Maximum load capacity	lb.	930
DIMENSIONS		
Length	feet / inches	16' 7"
Beam	feet / inches	7' 7"
Draft	inches	13"
Dry weight	lb.	1690
PERFORMANCE		
Maximum output	HP (kW) / rpm	110 (80.9) / 6500 each engine
Maximum fuel consumption	US gal/h (L / h)	12.2 gal (46 L) each engine
Cruising range (full throttle)	hr.	1.3
ENGINE		
Number of engines		2
Engine type		2-stroke
Number of cylinder		3 cylinders each engine
Displacement	cc (cu. in)	1051 (64) each engine
Bore & stroke	mm (in.)	81 x 68 (3.19 x 2.68)
Compression ratio		5.8
Lubrication system		Oil injection
Cooling system		Water-cooled
Starting system		Electric starter
Ignition system		CDI
Spark plug		NGK BR8HS
Spark plug gap	mm (in.)	0.7 ~0.8 mm (0.028"~0.032 ")
Recommended battery	Qty: 1	Marine Grade Group 24 Dual Purpose 675 Marine Cranking Amp
Battery capacity	Voltage - Amp Hours	12 -100
Charging system		Flywheel magneto
DRIVE UNIT		
Propulsion system		Jet pump
Jet pump type		Axial flow, single stage w//reverse
Impeller rotation		Counter clockwise (rear view)
Impeller pitch	leading / trailing	16.5° / 20°
Transmission		Direct drive from engine
Steering (nozzle) angle		23° ± 1°
FUEL AND OIL		
Fuel		Regular unleaded gasoline
Recommended engine oil		YAMALUBE 2 STROKE OUTBOARD OIL, or an equivalent TC-W3 certified outboard oil
Fuel tank capacity	US gal (L)	34 gal (129 L)
Oil tank capacity	US gal (L)	2.6 gal (10 L)

Chapter 5

TROUBLESHOOTING & SPECIAL PROCEDURES

TROUBLESHOOTING 5-1
Troubleshooting Chart.....5-1

SPECIAL PROCEDURES.....5-3
Towing the Jet Boat 5-3
Jump Starting.....5-3
Jet Pump Clean-Out Procedure.....5-4

TROUBLESHOOTING

If any trouble happens on your Jet Boat, use this section to check for possible cause. If you cannot find the cause or if the procedure for replacement or repair is not described in this owner's manual, ask your Yamaha Jet Boat dealer or qualified mechanic for the proper service.

The Troubleshooting Chart contains "TROUBLE", "POSSIBLE CAUSE", "REMEDY", "REFER PAGE".

Check the possible cause and remedy, and also the referred page for the maintenance steps to solve the trouble.

TROUBLESHOOTING CHART

TROUBLE	POSSIBLE CAUSE		REMEDY	Page
• **Starter motor does not turn over**	• Fuse	Burned out	• Replace the fuse and check wiring	4-14
	• Battery	Run down	• Recharge	4-16
		Poor terminal connections	• Tighten as required	4-16
	• Jet pump cleanout hatch	Not latched	• Latch securely	5-4
	• Starter component	Faulty	• Have serviced at Yamaha dealer	
	• Shift lever	Not in Neutral	• Shift to Neutral	3-13
• **Starter motor turns over/ engine does not start**	• Stop switch	Lock plate is not in place	• Install lock plate	2-5
	• Fuel cock	"OFF" position	• Turn the fuel cock to "ON"	2-9
	• Fuel	Empty	• Refill as soon as possible*	3-3
		Stale or contaminated	• Have serviced at Yamaha dealer	
	• Fuel tank	Water or dust collected	• Have service at Yamaha dealer	
		Built-up pressure	• Open the fuel tank filler cap and release pressure	3-12
	• Spark plug	Fouled or defective	• Clean or replace	4-6
	• Spark plug cap	Not fitted or loose	• Fit properly	4-6
	• Crankcase	Filled with fuel	• Have serviced at Yamaha Dealer	
		Filled with water	• Crank engine with spark plug out until clean	
	• Fuel filter	Clogged or water collected	• Have serviced at Yamaha Dealer	4-11
	• Choke	Knob automatically returns	• Tighten the choke cable tension, adjust nut	4-14

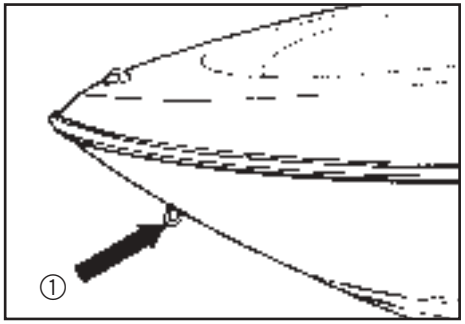
* Turn the fuel cock to "RES" (reserve) to return to shore.

TROUBLE	POSSIBLE CAUSE		REMEDY	Page
Engine runs irregularly or stalls	• Fuel	Empty	• Refill as soon as possible	3-3
		Stale or contaminated	• Have serviced at Yamaha dealer	
		Oil and gasoline mixture is too rich	• Have serviced at Yamaha dealer	
	• Choke	Knob is left pulled	• Push it in fully	2-8
	• Fuel filter	Water or dust collected	• Have serviced at Yamaha dealer	
	• Spark plug	Fouled or defective	• Replace	4-6
		Incorrect heat range	• Replace	4-6
		Gap incorrect	• Adjust	4-6
	• Spark plug cap	Loose	• Fit properly	4-6
		Loose electrical connections	• Tighten or connect properly	4-6
		Cracked, torn or damaged	• Replace	
	• Carburetor	Incorrect idle Adjustment	• Adjust	4-12
		Clogged	• Have service at Yamaha dealer	
Engine won't run over 3,500 rpm	• Engine overheat**	Jet intake clogged	• Clean	5-4
		Cooling system clogged	• Clean	4-1
Jet Boat speed too slow or loses power	• Cavitation	Jet intake clogged	• Clean	5-4
	• Engine overheat**	Jet intake clogged	• Clean	5-4
		Cooling system clogged	• Clean	4-1
	• Fuel Filter	Clogged	• Have serviced at Yamaha dealer	
	• Spark plug	Fouled or defective	• Replace	4-6
		Incorrect heat range	• Replace	4-6
		Gap incorrect	• Adjust	4-6
	• Spark plug caps	Loose	• Fit properly	4-6
	• Fuel	Stale or contaminated	• Have serviced at Yamaha dealer	

** Engine speed will be limited to 3,500 rpm by the overheat warning device.

EMERGENCY PROCEDURES

TOWING THE JET BOAT



① Bow eye

The Jet Boat should be towed only if it becomes inoperative.

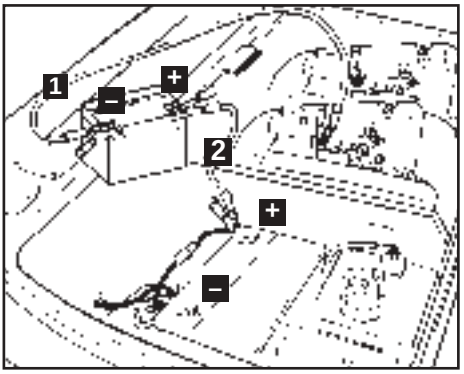
The towing rope should be long enough so that the Jet Boat will not collide with the towing boat when slowing down. A good rule of thumb is a tow rope which is three times the combined length of the towing boat and the Jet Boat.

Tow the Jet Boat using the bow eye only. Tow the boat at a "no wake" speed.

⚠WARNING

The operator of the towing boat must keep speed to a minimum and avoid traffic or obstacles which could be a hazard to the driver on the Jet Boat.

JUMP STARTING



① Negative (–) jumper cable

② Positive (+) jumper cable

If the boat batteries run down, the engines can be started in an emergency using a 12-volt battery and jumper cables.

⚠WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING:

- **If blower will not operate, ventilate engine compartment by opening engine compartment hatch for several minutes before attempting jump starting.**
- **Do not connect the negative (–) jumper cable to the negative (–) terminal of the dead battery. Sparks could ignite battery or fuel vapors, which could cause an explosion.**

To connect the jumper cables:

1. Connect the positive (+) terminal of the dead battery to the positive terminal (+)of the booster battery with the positive jumper cable.
2. Connect one end of the negative (–) jumper cable to the negative (–) terminal of the booster battery.
3. Connect the other end of the negative (–) cable to an unpainted bolt on the cylinder head.

CAUTION:

Be sure all connections are secure and correct before attempting to start the engine. Any wrong connection may damage the electrical system.

4) Start the engine, then disconnect the cables by reversing the above steps.

CAUTION:

Do not turn the starter motor for more than 5 seconds. If the engine does not start in 5 seconds, release the starter switch and try again after 15 seconds. Continuous cranking for more than 5 seconds will discharge the battery and the engine will not start. The starter motor may also be damaged if it is engaged continuously for more than five seconds.

JET PUMP CLEAN-OUT PROCEDURE

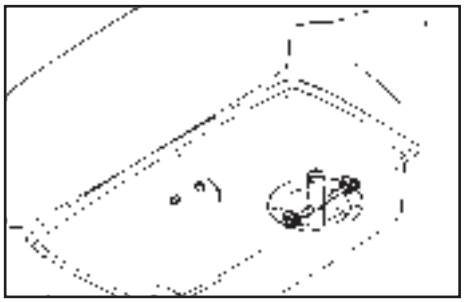
⚠WARNING

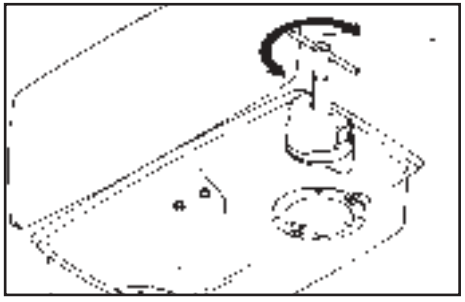
SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING:

- **Turn off and remove both ignition keys, remove lanyard, and wait for all movement to stop before removing access port caps.**
- **Never override interlocks to run engine with hatch open.**
- **The impeller has sharp edges. Be careful when reaching into jet pump area.**

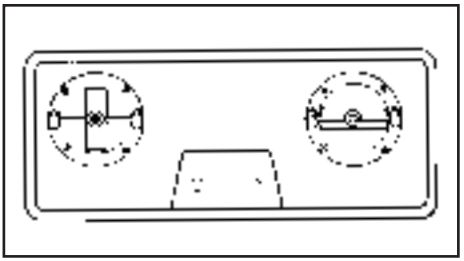
If weeds or debris get caught in the intake or impeller, cavitation can occur, and though the engine speed rises, forward thrust will decrease. If this condition is allowed to continue, pump damage can occur and the engines may overheat and seize. If there is any sign that the jet intake or impeller is clogged with weeds or debris, follow this cleanout procedure.

1. Turn off and remove ignition keys, remove lanyard, and wait for all movement to stop.
2. Lift the hatch on the rear platform.





3. Open the "T" handle hold-down clamps by turning them to the side, then remove the "T" handle from the access port cap wrench. Slide the "T" handle through the upper holes in the wrench. Be sure the wrench is firmly seated on the access port cap handle, then turn the wrench counterclockwise to unscrew the cap. Set the cap and wrench where they cannot be accidentally knocked overboard.
4. Remove any weeds or debris from the drive shaft, impeller, pump housing, and steering nozzle. If you cannot remove the debris, consult your Yamaha Jet Boat Dealer.
5. To reinstall the access port cap, first clean any debris from the threads in the access port. Align the groove on the plug under the cap with the locating tab in the port, then slide the cap down. Hand-tighten the cap as firmly as possible by turning it clockwise.
6. Set the access port cap wrench in place on the cap handle and slide the "T" handle through the upper holes. Tighten the cap by turning it clockwise up to the 1/4 turn more until either set of lower holes in the wrench shaft align with the clamps. Slide the "T" handle through the lower holes and secure it with both clamps.



CAUTION:

- **Be sure the caps are tightened securely and the cap wrenches are locked in place. Otherwise the cap could loosen and be forced out of the access ports by water pressure, causing loss of performance and possible damage.**
- **The hatch cover has interlocks to shut off the engines should the hatch be accidentally opened during operation. The engines will not restart unless the hatch is closed and latched.**

Chapter 6
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YAMAHA MOTOR CORPORATION, U.S.A.
JET BOAT LIMITED WARRANTY

Yamaha Motor Corporation, U.S.A. hereby warrants that new Yamaha Jet Boats will be free from defects in materials or workmanship for the period of time stated herein, subject to certain stated limitations.

PERIOD OF WARRANTY: The hull and deck on any new Yamaha Jet Boat purchased for pleasure use from an authorized Yamaha Jet Boat dealer in the United States will be warranted against major structural defects for a period of five (5) years in pleasure use, or for one (1) year in commercial applications. All other Yamaha Jet Boat components will be warranted against defects in material or workmanship, subject to exclusions noted herein, for a period of one (1) year from date of purchase in pleasure use, or ninety (90) days from the date of purchase in commercial applications.

Replacement parts used in warranty repairs will be warranted for the balance of the applicable warranty period.

The warranty described here applies to Jet Boats purchased and registered for use in the United States only. For warranty provisions outside the United States, contact that particular country's local Yamaha distributor.

OBTAINING REPAIRS UNDER WARRANTY: During the period of warranty, any authorized Yamaha Jet Boat dealer will, free of charge, repair or replace, at Yamaha's option, any parts adjudged defective by Yamaha due to faulty workmanship or material from the factory. All parts replaced under warranty will become the property of Yamaha Motor Corporation, U.S.A.

CUSTOMER'S RESPONSIBILITY: Under the terms of this warranty, the customer will be responsible for ensuring that the Jet Boat is properly operated, maintained, and stored as specified in the applicable Owner's Manual.

The owner of the Jet Boat shall give notice to an authorized Yamaha Jet Boat dealer of any and all apparent defects within ten (10) days of discovery and make the boat available at that time for inspection and repairs at the dealer's place of business.

GENERAL EXCLUSIONS FROM WARRANTY: This warranty will not cover the repair of damage if the damage is a result of abuse or neglect of the product. Examples of abuse and neglect include, but are not limited to:

1. Racing or competition use, modification of original parts, abnormal strain.
2. Lack of proper maintenance and off season storage as described in the Owner's Manual, installation of parts or accessories that are not equivalent in design and quality to genuine Yamaha parts.
3. Use of lubricants, oils, and fuel/oil mixtures that are not suitable for Jet Boat motor use.
4. Damage as a result of accidents, collisions, contact with foreign materials, or submersion.
5. Growth of marine organisms on motor or hull surfaces.
6. Normal deterioration.
7. Gel coat stress cracks.

SPECIFIC PARTS EXCLUDED FROM WARRANTY; Parts replaced due to normal wear or routine maintenance such as oil, spark plugs, fuel filters, impeller and liner, and anodes are not covered by warranty. Charges for transporting the Jet Boat to and from an authorized Yamaha Jet Boat dealer are excluded from warranty coverage.

TRANSFER OF WARRANTY: Transfer of the warranty from the original purchaser to any subsequent purchaser is possible by having the boat inspected by an authorized Yamaha Jet Boat dealer and requesting the dealer to submit a change of registration to Yamaha Motor Corporation, U.S.A. within ten (10) days of the transfer.

YAMAHA MOTOR CORPORATION, U.S.A. MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, U.S.A. AND EXCLUDED FROM THIS WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

YAMAHA MOTOR CORPORATION, U.S.A.
Post Office Box 6555
Cypress, California 90630

WARRANTY QUESTIONS AND ANSWERS

Q. What costs are my responsibility during the warranty period?

A. The customer's responsibility includes all costs of normal maintenance services, non-warranty repairs, accident and collision damages.

Q. What are some examples of "abnormal" strain, neglect, or abuse?

A. These terms are general and overlap each other in areas. Specific examples include: Running the Jet Boat out of oil, operating the boat with a broken or damaged part which causes another part to fail, and so on. If you have any specific questions on operation or maintenance, please contact your Yamaha Jet Boat dealer for advice.

Q. Does the warranty cover incidental costs such as transportation due to a failure?

A. No. The warranty is limited to repair of the Jet Boat itself.

Q. May I perform any or all of the recommended maintenance shown in the Owner's Manual instead of having the dealer do them?

A. Yes, if you are a qualified mechanic and follow the procedures specified in the Owner's and Service Manual. We do recommend, however, that items requiring special tools or equipment be done by a Yamaha Jet Boat dealer.

Q. Will the warranty be void or cancelled if I do not operate or maintain my new Jet Boat exactly as specified in the Owner's Manual?

A. No. The warranty on a new Jet Boat cannot be "voided" or "cancelled." However, if a particular failure is caused by operation or maintenance other than as shown in the Owner's Manual, that failure may not be covered under warranty.

Q. What responsibility does my dealer have under this warranty?

A. Each Yamaha Jet Boat dealer is expected to:
1. Completely set up each new Jet Boat before sale.
2. Explain the operation, maintenance, and warranty requirements to your satisfaction at the time of sale, and upon your request at any later date. In addition, each Yamaha Jet Boat dealer is held responsible for his setup, service and warranty repair work.

Q. Is the warranty transferable to second owners?

A. Yes. The remainder of the existing warranty can be transferred upon request. The unit has to be inspected and re-registered by an authorized Yamaha Jet Boat dealer for the policy to remain effective.

CUSTOMER SERVICE

If your Jet Boat requires warranty service, you must take it to any authorized Yamaha Jet Boat dealer within the United States. Be sure to bring your warranty registration card or other valid proof of the original date of purchase. If a question or problem arises regarding warranty, first contact the owner of the dealership. Since all warranty matters are handled at the dealer level, this person is in the best position to help you. If you are still not satisfied and require additional assistance, please write:

YAMAHA MOTOR CORPORATION, U.S.A.
CUSTOMER RELATIONS DEPARTMENT
P.O. Box 6555
Cypress, California 90630

CHANGE OF ADDRESS

The federal government requires each manufacturer to maintain a complete, up-to-date list of all first purchasers against the possibility of a safety-related defect and recall. This list is compiled from the purchase registrations sent to Yamaha Motor Corporation, U.S.A. by the selling dealer at the time of your purchase.

If you should move after you have purchased your new Jet Boat, please advise us of your new address by sending a postcard listing your Yamaha model name, engine number, dealer number [or dealer's name] as it is shown on your warranty card, your name and new mailing address.

Mail to:

YAMAHA MOTOR CORPORATION, U.S.A.
WARRANTY DEPARTMENT
P.O. Box 6555
Cypress, California 90630

This will ensure that Yamaha Motor Corporation, U.S.A. has an up-to-date registration record in accordance with federal law.

Y E S

YAMAHA EXTENDED SERVICE

Keep your Yamaha Jet Boat protected even after the 1-year warranty coverage provisions expire with genuine Yamaha Extended Service (Y.E.S.).

Y.E.S. is designed and administered by Yamaha Motor Corporation to provide maximum owner satisfaction. You get uninterrupted factory-backed coverage for extra peace of mind.

- Y.E.S. is flexible. You choose the plan that's right for you: 12 months, 24 months, 36 months, or 48 months beyond the 1-year warranty coverage period. That means you can get up to 5 years of coverage on the power train, controls, and other components to match the comforting 5-year standard protection on the hull.
- Y.E.S. is designed and administered by the same Yamaha people who handle your warranty – and it shows in the comprehensive coverage benefits. There are no limitations on hours of use. Coverage isn't limited to "moving parts" or the "drive train" like many other plans. And Y.E.S. covers manufacturing defects just like the warranty. See the sample contract at your Yamaha dealer to see how comforting uninterrupted factory-backed protection can be.
- You don't have to pay anything for covered repairs. There's no deductible to pay, and repairs aren't "prorated." You don't have any "out-of-pocket" expenses for covered repairs.
- In addition, Travel and Recreation Interruption Protection (TRIP) is included at no extra cost. TRIP gives you up to $150 reimbursement per occurrence for any reasonable expenses you incur because your Yamaha needs covered service: replacement vehicle rental, emergency towing, phone calls, even food and lodging when you are away from home. This superb coverage goes into effect when you purchase Y.E.S., so it applies to any warranty repairs as well as covered repairs during your entire Y.E.S. plan period.
- Y.E.S. coverage is honored at any authorized Yamaha dealer nationwide.
- Y.E.S. coverage is transferrable to a new owner if you sell or trade-in. That can make your Yamaha Jet Boat much more valuable!

This excellent Y.E.S. plan coverage is only available to Yamaha owners like you, and only while your Yamaha is still within the first year of the Yamaha Limited Warranty period. So visit your authorized Yamaha dealer to get all the facts. He can show you how easy it is to protect your investment with Yamaha Extended Service. We urge you to act now. You'll get the excellent benefits of TRIP coverage right away, and you'll rest easy knowing you'll have strong factory-backed protection even after your Yamaha Limited Warranty expires. You can also save money: Y.E.S. costs less within the first 90 days after you buy your Yamaha. See your dealer today!

A special note:

If visiting your dealer isn't convenient, contact Yamaha with your Primary ID number or Hull Identification Number. We'll be happy to help you get the Y.E.S. coverage you need.

Yamaha Service Marketing
P.O. Box 6555
Cypress, CA 90630
(714) 761-7632

BOATING TERMS

Bow	The front part of the boat.
Deck	The "floor" or upper structure which covers the hull.
Give-Way	The vessel which must yield the right-of-way when two boats meet.
Gunwale	The meeting junction of the deck and hull; the upper edge around the boat. Pronounced "gun'l"
Hatch	An opening in the deck which provides access below.
Helm	The steering console.
Hull	The basic part of the boat; the under side.
Lanyard	The cord or tether that connects the operator to the engine stop switch so the engines will stop if the operator accidentally leaves the helm.
PFD	A Personal Flotation Device, also known as a "life jacket."
Planing	Traveling at a speed fast enough so the boat has leveled out and is skimming on top of the water. There is a wake.
Port	The left side of the boat.
Stand-On	The vessel with the right-of-way when tow boats meet.
Starboard	The right side of the boat.
Stern	The back part of the boat.
Sub-Planing	Traveling at a medium speed. The bow of the boat is out of the water, but you are still traveling through the water. There is a wake.
Transom	The vertical part of the stern.
Trolling	Traveling at idle speed, using little or no throttle. The boat is down in the water and it is not leaving a wake.
Wake	The visible track of disturbed water that the boat leaves behind as it moves in the water.

SAMPLE FLOAT PLAN

Leave a float plan with a responsible person on shore before boating. The example below can be copied and used.

FLOAT PLAN

BOAT MAKE:	**YAMAHA**	MOTOR TYPE:	**Jet**
MODEL:	**Exciter**		
LENGTH.:	**16'7"**		
COLOR:	**White with black and purple**		
REG. NO.:			

OPERATOR: ADDRESS:	EMERGENCY PHONE:
PASSENGER #1: ADDRESS:	EMERGENCY PHONE:
PASSENGER #2: ADDRESS:	EMERGENCY PHONE:
PASSENGER #3: ADDRESS:	EMERGENCY PHONE:
PASSENGER #4: ADDRESS:	EMERGENCY PHONE:

POINT OF DEPARTURE:	DATE/TIME:	
TOW VEHICLE MAKE/MODEL	LICENSE:	TRAILER LICENSE:

DESTINATION:	LORAN OR GPS COORDINATES:	INTENDED ACTIVITY:

EXPECTED RETURN DATE:	TIME:
LOCAL U.S. COAST GUARD PHONE #:	
NOTES:	

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